

NOLOGY DEPT

Chilton's

MOTOR AGE

JANUARY 1951

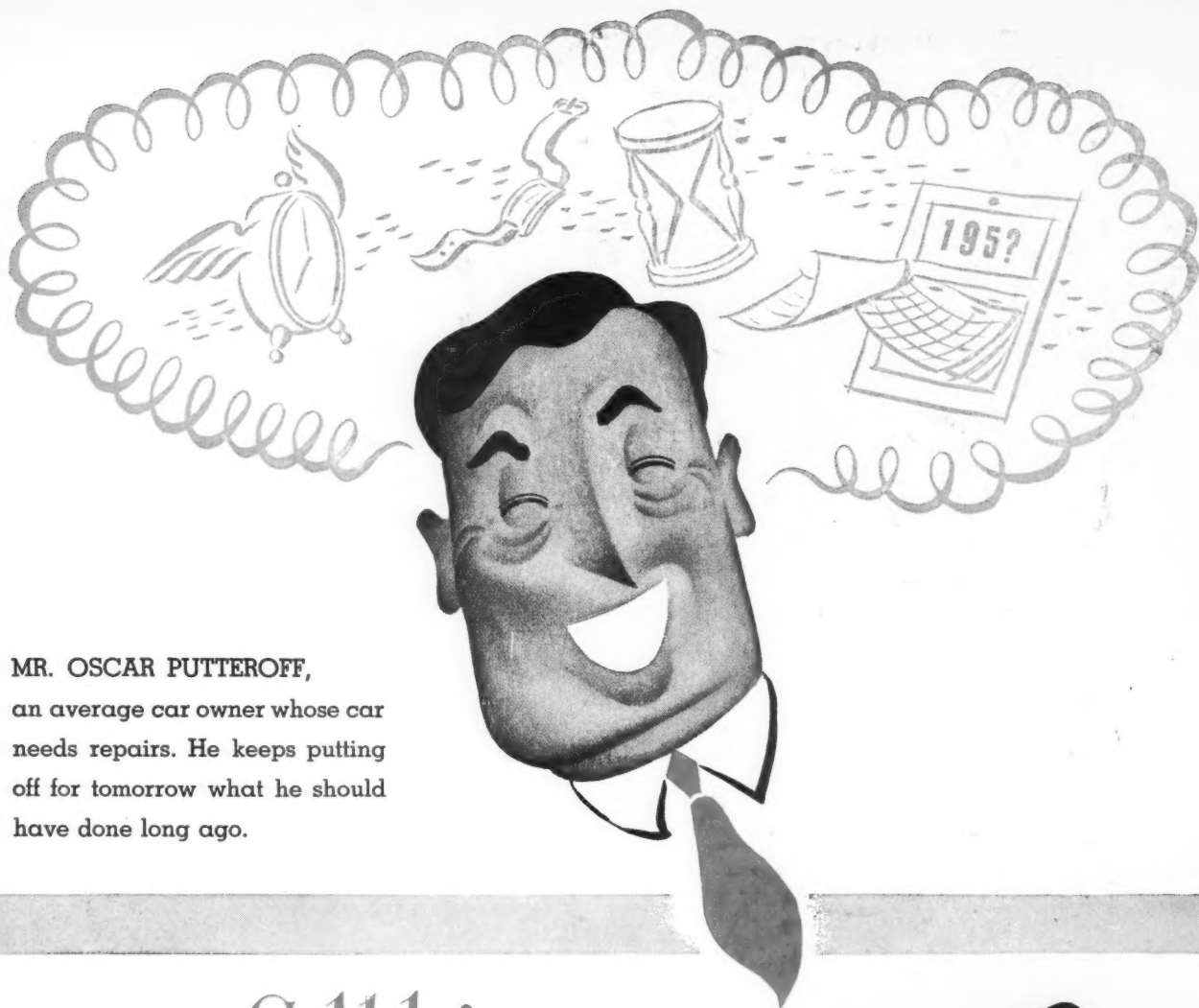


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DETROIT

In This Issue:

A\$ Ideas A

Work



MR. OSCAR PUTTEROFF,
an average car owner whose car
needs repairs. He keeps putting
off for tomorrow what he should
have done long ago.

Sell him..

WITH THE HASTINGS "CONVINCER"

Put this powerful sales tool in the hands of Mr. Putteroff—
and all customers like him. It dramatically points out that
the more he delays the more he pays.

It says "do it now!" And it shows why—with simple, under-
standable charts of progressive engine wear, pictures of ad-
ditional parts needed, actual changes in cost.

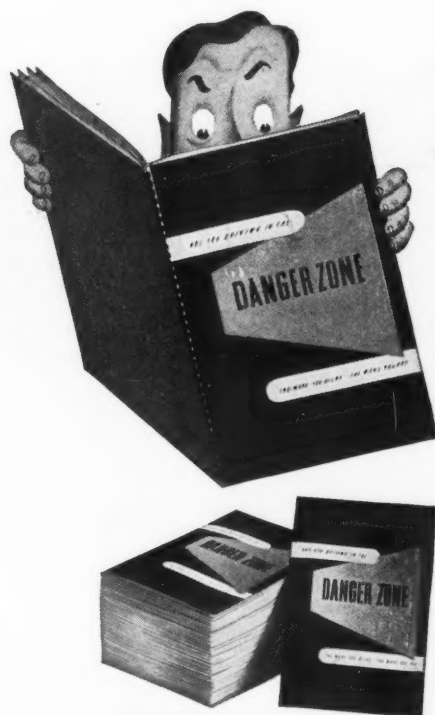
This new fire customer-convincer booklet sells tune-ups, re-
pair jobs, major overhauls. It's an important part of the
Hastings "Danger Zone" program that's building business
in shops across the nation.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN

HASTINGS

STEEL-VENT PISTON RINGS

TOUGH on Oil-Pumping
GENTLE on Cylinder Walls

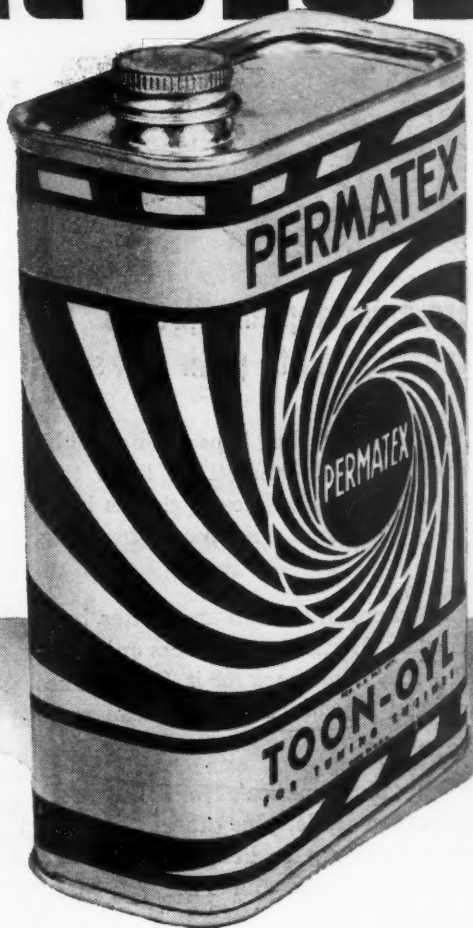


NEW! HASTINGS DANGER ZONE BOOKLETS FOR YOUR CUSTOMERS!

These "Convincer" booklets—ready to mail
to your customers—are available without
charge. Ask your Hastings jobber. Act now
for increased shop business!



PREVENT ACID-ACTION and SLUDGE



Extensive research has proven that acid action causes more engine wear than friction. Use Permatex Toon-Oyl to neutralize acid and remove sludge and gum binders from all working parts. Permatex Toon-Oyl keeps lubricating oils free-flowing in coldest weather. Add one quart of Permatex Toon-Oyl to the crankcase.

When you talk Permatex...you're talking Quality!

PERMATEX COMPANY, INC., BROOKLYN 35, N. Y.

Millions ask for



Every Marfak magazine ad reaches more than 16½ million families!



Every Tuesday night the Milton Berle show reaches more than 17 million viewers!

**Texaco Dealers enjoy top lube profits
... plus many opportunities to push TBA sales**

GETTING that "cushiony" feeling is becoming a habit with more and more motorists. They know they get it with *Marfak*—the superior Texaco chassis lubricant. They know they get quieter riding, easier handling, too—with *Marfak*.

Marfak is mighty important bread-and-butter business for Texaco Dealers. Because car owners enjoy the benefits of *Marfak*—they come back for it. That makes regular customers. And regular customers mean more opportunities for TBA sales.

Magazine advertising plus America's No. 1 TV show starring Milton Berle, plus other local sales helps all add up to keeping Texaco Dealers' lifts busy, lube and TBA profits healthy.

No wonder TEXACO DEALERS are such busy dealers!



**A Great Line-up for
TEXACO DEALERS**

Sky Chief and *FIRE-CHIEF* GASOLINES
HAVOLINE and TEXACO MOTOR OILS • MARFAK CHASSIS
LUBRICATION • P T ANTI-FREEZE • REGISTERED REST ROOMS

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

for AUTOMOTIVE SERVICEMEN



Vol. LXX, No. 2

January, 1951

In This Issue . . .

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The Call to Service.....	by Frank P. Tighe	33
Productivity—the Key to Progress.....	by C. E. Willson	34
Parts Availability in 1951.....	by C. C. Tapscott	36
"Train More Mechanics".....	by Major General L. B. Hershey	37
Tomorrow's Car		38
It Happened in 1950.....	by W. T. Bostelman	40
Where ASIdeas Come From.....		42
ASIdeas at Work.....	by A. H. Nellen, Jr.	45
Dealers Must Be Ready.....	by F. L. Haller	59
Jobber Service in 1951.....	by W. J. Barron	60
Business Guides.....	by C. M. Kenyon and M. Ainsworth	61
Service Highlights	by J. K. Montgomery	66
New Car Registrations.....		70
Specifications		76
News scene		108
Price, Weight and Body Table.....		202
Advertisers' Index		208

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Raybestos

is used by more dealers than
any other brake lining



Raybestos PG Sets
and this certificate
are featured month
after month in the
SATURDAY EVENING

POST

Raybestos PG Brake Lining Sets, thoroughly proving ground tested, are delivered in the correct combination of linings for each make and model of car. That is why they last longer on today's vehicles, make safer stops in today's traffic.

PG Ray-BOND for bonding

PG drilled for riveting

Raybestos

Raybestos Division of

RAYBESTOS-MANHATTAN, INC., Bridgeport, Conn.

AMERICA'S BIGGEST SELLING BRAKE LINING



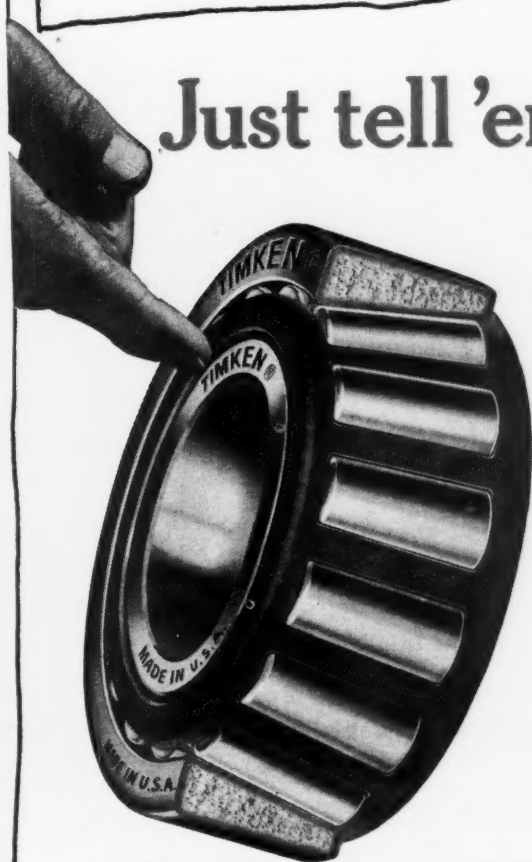
RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hoses • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

Want customers to
look up to you?

Car owners respect the service man
who uses the *best* replacement parts.
In bearings, that's Timken®. Timken
tapered roller bearings are America's
best known, best liked bearings. Make
sure your customers *know* you use them.









Just tell 'em it's "TIMKEN"!



Take a tip from automotive manufacturers. Timken bearings are their number one choice for original equipment! Timken bearings are made of special analysis Timken alloy steel and manufactured to amazing precision under Timken's complete quality control.

When you replace a tapered roller bearing, use *only* a Timken bearing. And point out to customers the trade-mark "Timken" that's stamped on the bearing. **FREE BOOKLET!** Send today for "*Timken Tapered Roller Bearings, Their Care and Maintenance*". Write Dept. M-1, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

NOT JUST A BALL  NOT JUST A ROLLER  THE TIMKEN TAPERED ROLLER  BEARING TAKES RADIAL  AND THRUST  LOADS OR ANY COMBINATION 

Go Overhead

with

ARO



"Took a tip from a factory assembly line—installed ARO Overhead Reels!" says Charles O. Gracey, vice president of Colonial Motors, Inc., Chicago, talking with Al Ricci, service manager. "ARO is tops for saving time and increasing lube profits!"



Gain Lube Space and Profit!

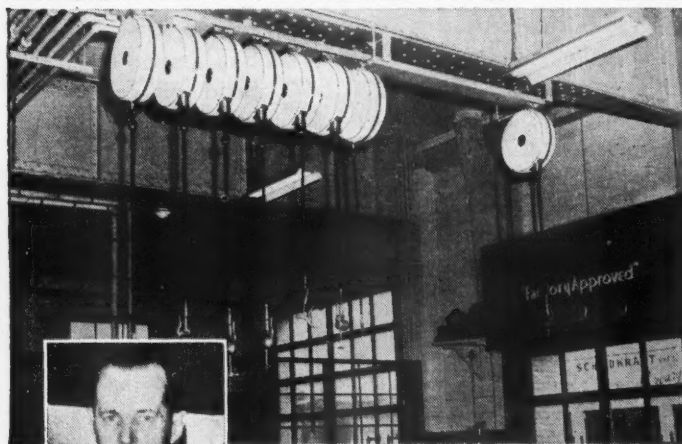
Here's the MODERN LOW-COST way to expand your service facilities and INCREASE PROFITS!

Clear your floor for ACTION... use ARO Reels overhead! More "bend-over" space... reduce hose wear... all control nozzles handy for chassis grease, gear oils, motor oils, water and air.

SEE YOUR ARO JOBBER

The Aro Equipment Corporation, Bryan, Ohio

Aro of Canada, Ltd., Toronto, Ont.

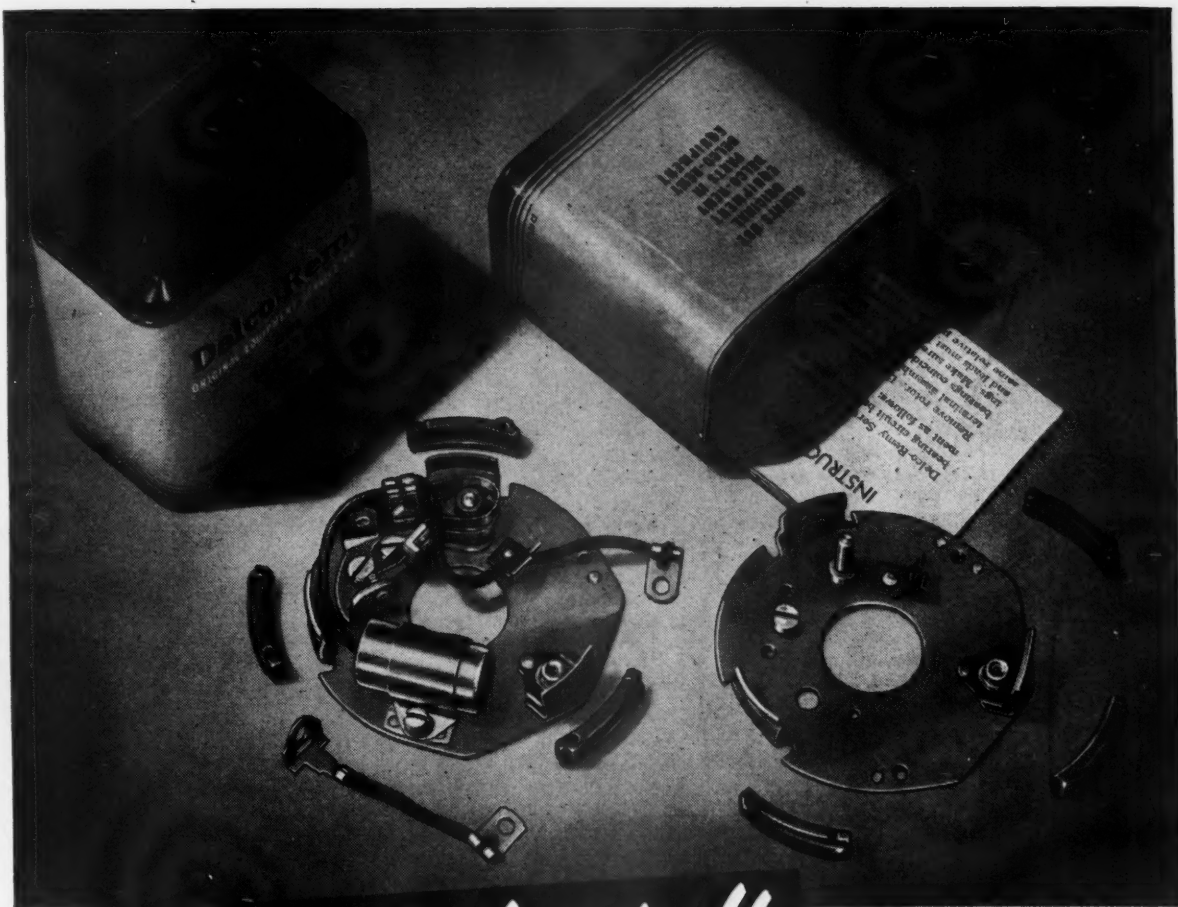


"We found that ceiling space is just as good as floor space for lube work—handy, too!" says Lester H. Tillman, vice president of Jamaica Lincoln & Mercury Corp., Jamaica, N. Y. "This ARO installation is a money-maker!"

ARO

LUBE EQUIPMENT

ALSO... AIR TOOLS...
HYDRAULIC EQUIPMENT...
AIRCRAFT PRODUCTS...
GREASE FITTINGS...



Easy to Install

DELCO-REMY DISTRIBUTOR RENEWAL PACKAGES



*Popular renewal
package assortment
No. 1915884*



DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

You can be sure of satisfactory performance and of satisfied customers when you service Delco-Remy distributors with these genuine Delco-Remy renewal breaker plates — now packaged for your convenience. They are easy to install without special tools and, because they are Delco-Remy built to original equipment specifications, they are bound to fit.

Delco-Remy packaged distributor renewal breaker plates fit scores of six- and eight-cylinder models, cars and trucks, both old and new. Order the popular assortment containing six packages — four breaker plates with contact points, condenser and molded bearings, assembled; two breaker plates with molded bearings only. Get your supply today — through your UNITED MOTORS DISTRIBUTORS.

Delco-Remy
DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

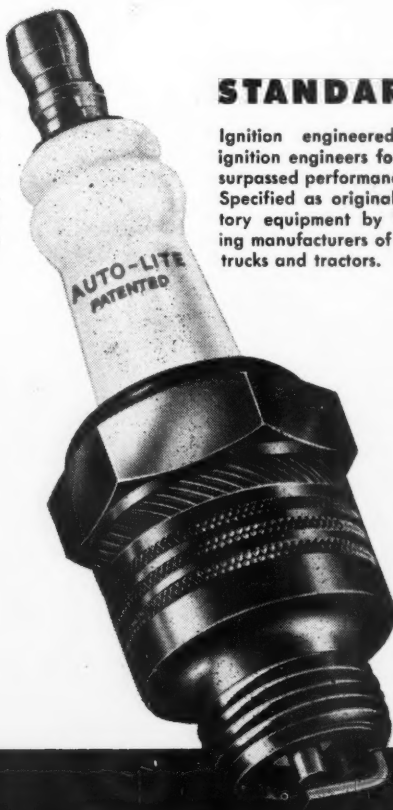
Chilton's MOTOR AGE, JANUARY, 1951

This line is



RESISTOR

Offers car owners new advantages found only in automotive type spark plugs with built-in resistors. Original equipment on many leading makes of America's finest cars.



STANDARD

Ignition engineered by ignition engineers for unsurpassed performance... Specified as original factory equipment by leading manufacturers of cars, trucks and tractors.



TRANSPORT

Rugged construction and aircraft type insulator combine to give lower cost per mile of spark plug operation... built to take it... another Auto-Lite original factory product.

AUTO-LITE SPARK PLUGS

This line is unmatched... and Auto-Lite is the best advertised name in the automotive after-market. Only Auto-Lite offers dealers the top-rated "Suspense!" show on radio every week and TV every week...

the famous "spark plugs look alike, too" campaign in national magazines and newspapers... promotion program for dealers and jobbers... all designed for greater sales. Ask your jobber's salesman, or write to

THE ELECTRIC AUTO-LITE COMPANY

Toledo 1, Ohio

Merchandising Division

Toronto, Ontario

TUNE IN "SUSPENSE!"...CBS RADIO THURSDAYS...CBS TELEVISION TUESDAYS

AUTO-LITE

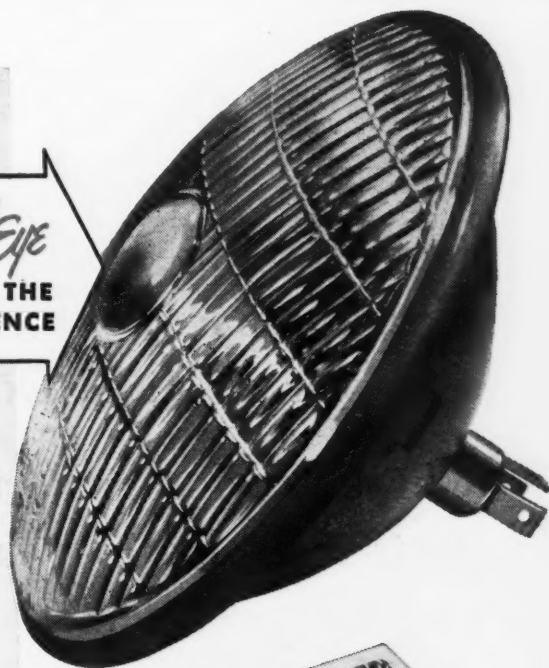
unmatched...

AUTO-LITE *Bull's-Eye*

LAMPS

The new Auto-Lite Bull's Eye Lamp concentrates the stray light into the main driving beam. Factory focused. Sealed under 9,000 pounds per square inch pressure. This new lamp will operate even when lens is cracked or broken. Offers you advantages for more sales. Original factory equipment on many leading cars.

THE
Bull's-Eye
MAKES THE
DIFFERENCE



AUTO-LITE *Silver Line*

CABLE

The new Silver Line is a complete line—featuring silver sheath Steelductor Spark Plug Wire, Flexstrand Primary Wire and battery cable with the new power-line terminal that holds tight. Top quality. Beautifully packaged to sell on sight.



*
The Best Advertised Name in the Automotive After Market

MOPAR

TRADE MARK



MOPAR is the trade mark for parts and accessories factory-engineered and inspected by Chrysler Corporation for Plymouth, Dodge, De Soto and Chrysler cars and Dodge "Job-Rated" trucks.

Chrysler Motors Parts Corporation makes MOPAR parts available to you at Plymouth, Dodge, De Soto and Chrysler dealers everywhere.

Remember the name—MOPAR. It is our way of saying, "These parts are made right . . . fit right . . . work right!"

For complete satisfaction, always install MOPAR parts and accessories in all vehicles built by Chrysler Corporation.

You can get
MOPAR parts
from dealers

FOR

PLYMOUTH • DODGE • DE SOTO • CHRYSLER
CARS • DODGE "Job-Rated" TRUCKS

...and from many garages and service stations

CHRYSLER MOTORS PARTS CORPORATION • DETROIT 31, MICH.

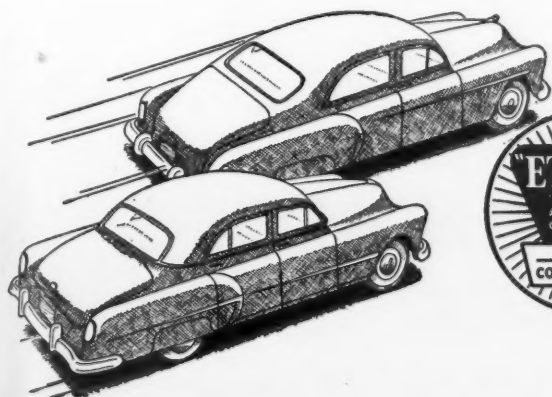


There's a big difference between an

ape ...and a ... grape

—and there is a powerful difference, too,
between performance and “ETHYL” performance!

TRADE-MARK



Yes, there's a powerful difference between the performance of an engine using just gasoline and one using “Ethyl” gasoline. When you set the timing to take full advantage of “Ethyl” gasoline's higher antiknock quality, your customer gets “Ethyl” performance—more power, quicker starting, more mileage. And you get happier, more satisfied customers.

ETHYL CORPORATION, New York 17, New York

Other products sold under the “Ethyl” trade-mark: salt cake...ethylene dichloride...sodium (metallic)...chlorine (liquid)...oil soluble dye...benzene hexachloride (technical)

Chilton's MOTOR AGE, JANUARY, 1951



That's what car owners and fleet operators want. That's what vehicle manufacturers are providing. But today's engines are more subject to

Block Distortion!

Why have so many engine manufacturers adopted expander-type oil rings as original equipment? Because repeated increases in power output have multiplied the possibilities of *block distortion*!

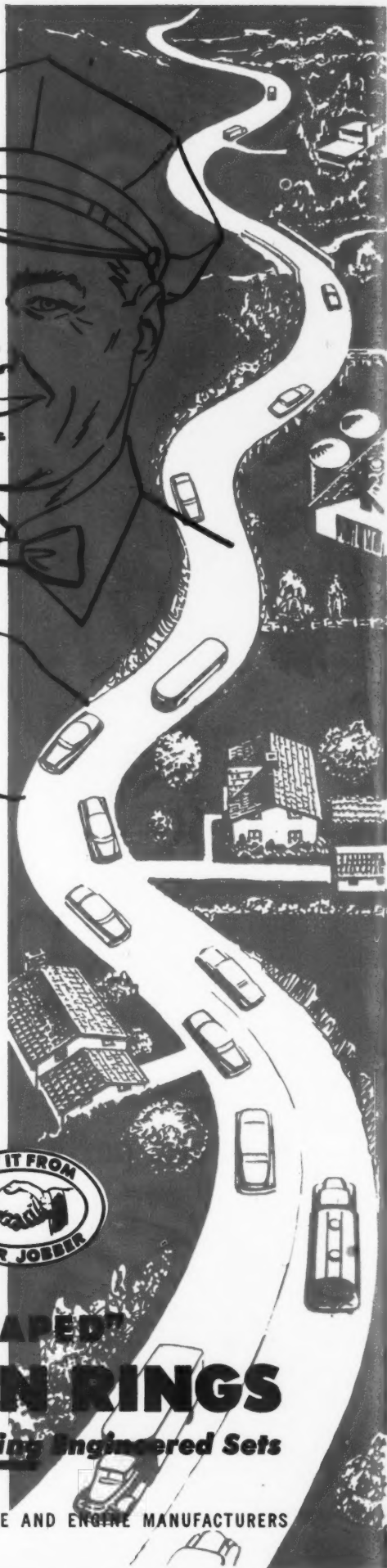
The flexibility and adaptability of the expander-type rings are essential to compensate for these conditions.

And if adaptable rings are essential to efficient performance in *new* engines, it's obvious that adaptability is even more necessary in re-ring or rebuild jobs. That's where Pedrick Engineered Sets come in! Each Pedrick set is specifically engineered to meet *today's* requirements in individual engines . . . with adaptability that controls blow-by, maintains compression, and is *guaranteed* to reduce the excessive oil consumption that follows block distortion. For the sets you need, see your Pedrick jobber! WILKENING MANUFACTURING CO., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Company (Canada) Ltd., Toronto.

Pedrick[®]

"HEAT-SHAPED"
PISTON RINGS
in Compensating Engineered Sets

FOR 31 YEARS, SUPPLIER OF PISTON RINGS TO LEADING VEHICLE AND ENGINE MANUFACTURERS



At a time like this . . .



your customers need

BALANCED BRAKES

Only **Grey-Rock** *makes*
BALANCED BRAKSET LININGS



GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings
Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment
Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls



Brakes *must* be ready for any emergency! And dependable brake action demands balanced linings!

Why? Different shoes, even in the same brake, do different work, need different kinds of linings. Grey-Rock gives you balanced combinations to provide smoother, *safer* stops . . . with equal wear on all shoes, hence greater mileage.

In addition, Grey-Rock Balanced Linings eliminate dive, grab, hard pedal, and other brake troubles. For better and more profitable brake jobs, order Grey-Rock Balanced Braksets from your jobber. Ask him, too, about Grey-Rock's business-building promotional plans.



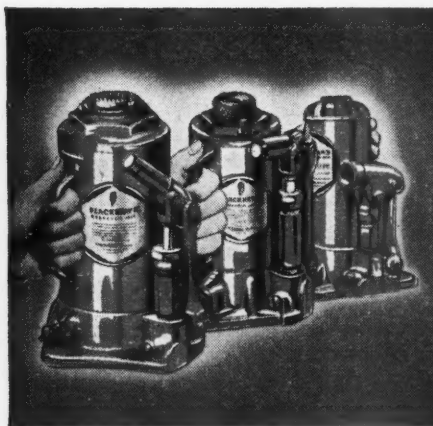
Consistently Advertised in
POST
Country
Gentleman



7 WAYS TO BOOST YOUR LEADERSHIP



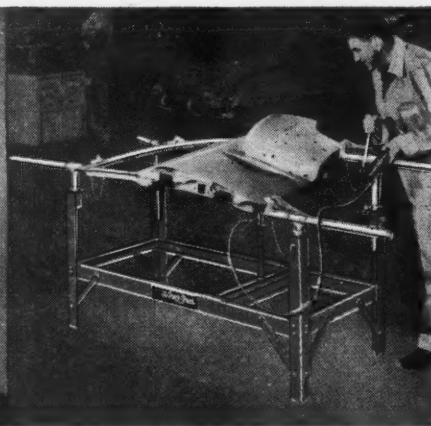
1 Equip each mechanic with his own Blackhawk Service Jack — Stop costly waiting! And pick a range of sizes to handle each class of service. Blackhawks dress up your shop . . . are years ahead!



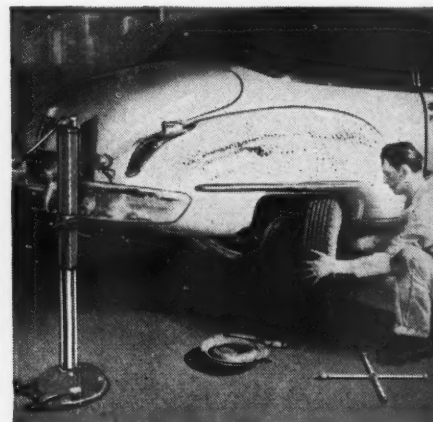
2 Make extra money with Blackhawk Hand Jacks — stock this high-profit *quality* line for resale to both truck and passenger car owners. Use 'em yourself, too, to zip up shop jobs and *handle* truck trade.



3 Look, feel and work like a professional! Beat flat rates and win preferred customers. Get a "Treasure Chest" of sparkling Blackhawk Socket Wrenches. They're the absolute *finest*, yet cost nothing extra!



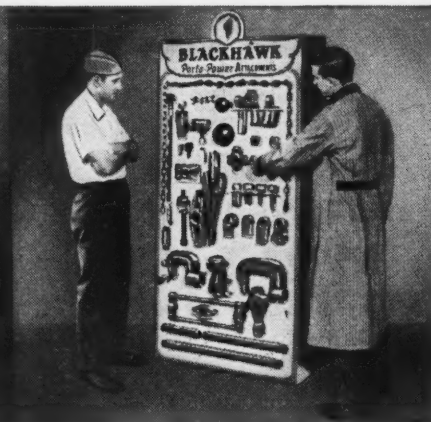
4 Slash time 50% on off-the-car rough-out work! Take the wrestling out of reconditioning. Get a "Reck-Rack" to rigidly hold any body section for hammering, sanding and other jobs.



5 Speed up your wheel service on modern cars. Use hydraulic "LIFT-POST" — Blackhawk's unmatched answer for getting cars *up* faster. Deep-skirted fenders go *up*, too, exposing the wheel for fast action.



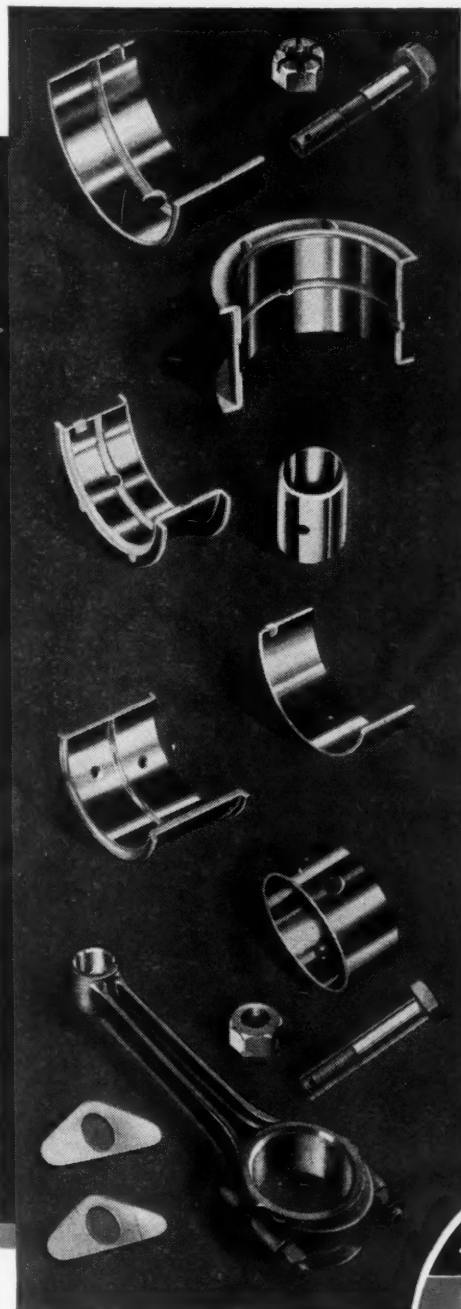
6 Get equipped for STEP No. 1 in profitable reconditioning — and that calls for "Porto-Power" — to reshape the metal. Only Blackhawk makes "Porto-Power." Nothing else even closely rivals it.



7 Bank on the jobber who represents Blackhawk — he generally is tops in his territory. See his displays of Blackhawk equipment that boost your leadership. *Blackhawk Mfg. Co., Milwaukee 1, Wisconsin.*

BLACKHAWK

for all of your
engine bearing needs.....



the red-and-black
Federal-Mogul package
is your guide to quality!

For top-notch engine bearing jobs, ask for the red-and-black Federal-Mogul package of quality! From the complete Federal-Mogul line of more than 7,000 available items, you get complete engine bearing service. Precision insert bearings — main, connecting rod or cam . . . reconditioned connecting rods . . . rebabbitted rods . . . or the bolts and nuts, shims and bushings for servicing the rods. Ask your Federal-Mogul jobber!



FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

*Get
America's
Favorite*

SPARK PLUG



**CHAMPION F-600 UNIT "GREATEST SELLING-TOOL EVER!"
—NATIONWIDE CONSENSUS!**

"Unit on display causes many customers to ask for
plug checks! Sales up 50%!"

W. E. Mothershead
Webb & Mothershead
Phoenix, Ariz.

"Now selling 90% more Champions than ever before!"

W. E. Andrews, Mgr.
Page Service & Recapping
Durham, N. C.

"Cost of unit written off in one month's added business!"

Hal Davis
Hal's Associated Service
San Francisco, Calif.

"Paid for itself in 25 days! Sales up 300%!"

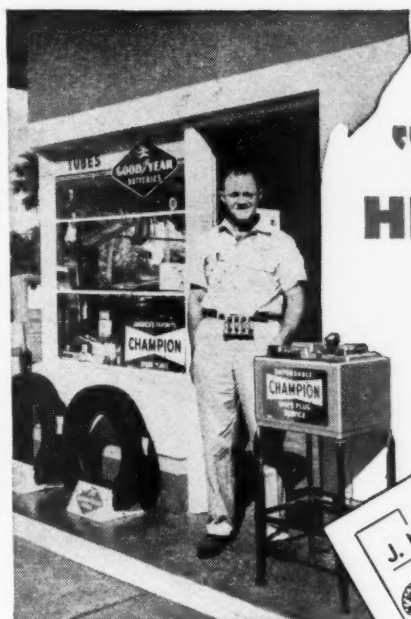
F. A. Argenbright
Texaco Super Service
Van Wert, Ohio

BE A CHAMPION DEALER

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

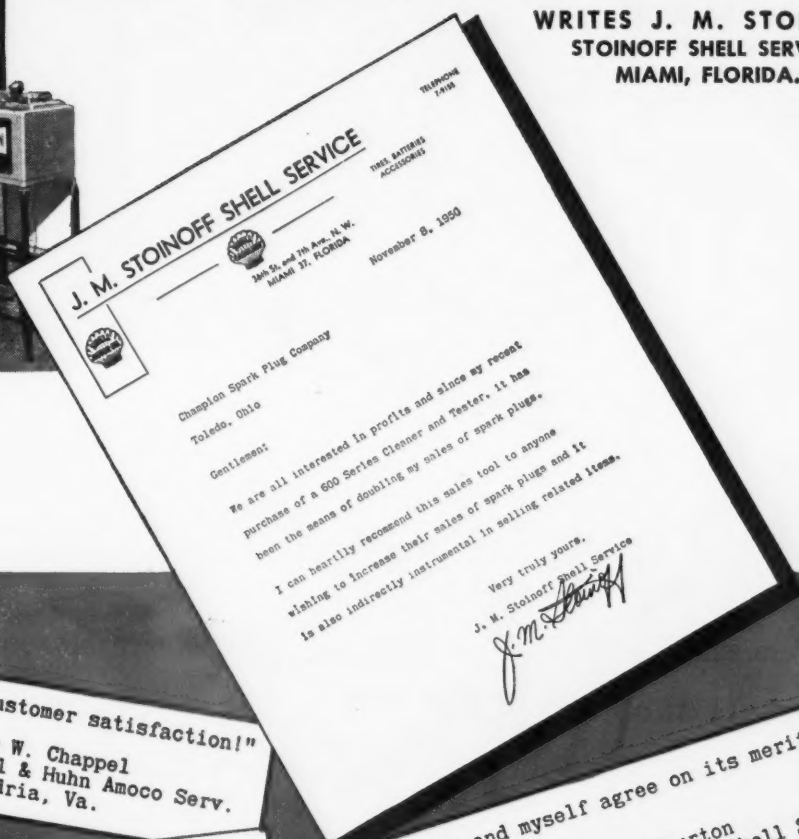
Listen to the CHAMPION ROLL CALL : : Harry Wismer's fast sportscast every Friday night, over the ABC Network

MERCHANDISER!



**"DOUBLED MY VOLUME—
HEARTILY RECOMMEND IT!"**

**WRITES J. M. STOINOFF
STOINOFF SHELL SERVICE
MIAMI, FLORIDA.**



"Sales jumped 300%! Greater customer satisfaction!"

**Wesley W. Chappel
Chappel & Huhn Amoco Serv.
Alexandria, Va.**

**"Best boost to service station plug business that
has ever come along!"**

**Clarence V. Brauch
Brauch's Service Station
Cheektowaga, N. Y.**

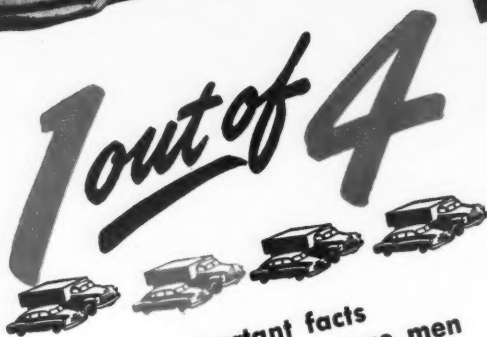
**"Eight attendants and myself agree on its merits!
Sales up 60%!"**

**Ben Hallyburton
Hallyburton's Shell Service
Portland, Oregon**

IT PAYS!

**THERE'S NOTHING LIKE A
DEMONSTRATION SALE!
ORDER YOUR CHAMPION
F-600 UNIT NOW!**

Your Partner in Service



Important facts for independent garage men

You're sure of a large, continuing demand for the parts you obtain from your Chevrolet dealer—because more than one out of every four cars on the road today is a Chevrolet. Be prepared for this profitable service market. Order your supply of Genuine Chevrolet Parts today.



FOR YOUR BEST DEAL..

Your Chevrolet Dealer
**IS READY, WILLING
AND ABLE
TO SERVE YOU**

Your local Chevrolet dealer can help promote your business success two ways—and he's ready, willing and able to do it. He has a well-balanced stock of parts and a thorough knowledge of service problems. He invites you to draw on either of these assets any time, all the time. See him soon . . . you're always welcome to talk things over with your *partner in service*.

.. DEAL WITH YOUR CHEVROLET DEALER

Gasoline Survey* Shows:

95% OF NEW CAR DEALERS PICK NEW BLUE SUNOCO

AS "EQUAL TO" OR "BETTER THAN" PREMIUM PRICED GASOLINE

Make your test TOUGH—Make it FAIR
—then give us your HONEST OPINION

We don't want compliments unless you feel New Blue Sunoco has earned them. So, won't you please fill in your honest opinion and return this card to us?

I found the performance of NEW BLUE SUNOCO to be:

- | | |
|---|---------------------------------|
| <input type="checkbox"/> Much better than | { PREMIUM
PRICED
GASOLINE |
| <input type="checkbox"/> A little better than | |
| <input type="checkbox"/> Equal to | |
| <input type="checkbox"/> Not as good as | |

Test made in a _____ car, _____ (Year)

You don't place yourself under any obligation whatsoever by mailing this card. We purposely have not even asked you to sign it. PLEASE BE SURE TO FILL IN AND RETURN IT, because we are most anxious to obtain the reaction of car dealers to our new product.

Here's how they rated
NEW BLUE SUNOCO

24% "*Much better*"

20% "*A little better*"

51% "*Equal to*"

5% "*Not as good*"

*THIS IS THE FORM which 1903 new car dealers returned
after they had tried New Blue Sunoco:

New Blue Sunoco saves you and
your customers up to 2¢ per gallon
over premium priced gasoline.



THE HIGH TEST GASOLINE THAT
SELLS AT REGULAR GAS PRICE!

NEW CAR DEALERS

New Car Dealers know that
New Blue Sunoco not only
gives car owners high anti-
knock engine performance
but saves them money over
premium priced gasoline.

WHEN THERE'S A JOB TO BE DONE . . .



If you're installing rings in Chevrolet automobiles you can count on the "OLD PRO" of the MOOG X-PLUS Line

MOOG SET #5-507

Here's a set of piston rings that has been "licking" those Chevrolet jobs for years. Proved by performance: restores Chevrolet motors to FULL POWER efficiency — eliminates blow-by, excessive oil consumption, and costly comebacks.

Why guess? Why take chances? Play safe with Moog! Order a set of Moog's No. 5-507 today from your Moog distributor, or write us for name of nearest distributor.

MOOG PISTON RING CO. ST. LOUIS 14, MO.
Division: MOOG INDUSTRIES, INC.

Try a Set!





Service Dealers Displaying This Emblem...

are entitled to a 40% discount on the entire Holley line.

establish a direct factory-to-dealer contact that provides new service information within days after its publication.

are assured of genuine, original equipment, factory-built parts.

are backed up by half-page two-color advertisements in such magazines as the "Saturday Evening Post."

are provided with literature, news mats, and display material free of charge.

are the consumer representatives of a firm that has been—



For Half a Century, Original
Equipment Manufacturers for
the Automotive Industry.

5930 VANCOUVER AVENUE
DETROIT 4, MICHIGAN



NO "SECOND BESTS" FOR THE SKI-CHAMP!

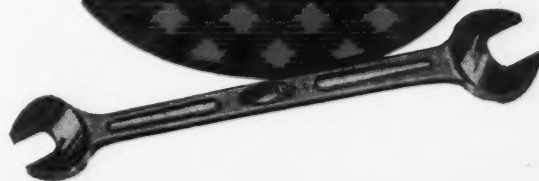
Imagine a champion skier putting up with anything less than the finest in skis! He knows that a broken ski can mean a broken leg instead of a broken record.

It is equally hard to imagine a real mechanic putting up with less than the finest in tools. He knows that an inferior tool is an open bid for an injured hand or a spoiled job. No wonder you find Bonney Wrenches in the kits of so many top-notch mechanics.

This is one of a series of spirited sporting scenes (in full color, without advertising) available on request. Write for your free set today.

"CHEAP TOOLS ARE FOR CHUMPS", say the men who know best—America's finest mechanics. And they are strong for Bonney Wrenches. To them "Bonney" means

lightness, strength, balance, precision . . . a good job in less time . . . with greater safety for man and materials.





NEGLECTED WIRES *cause* **FIRE!**

Defective wires and cables are the worst fire hazard in cars, trucks, buses. Here's proof!

In Chicago alone, 3,633 motor vehicles burned up in 1949. Of these, 2,298—that's 63%—caught fire because of defective wiring!

National Safety Council figures like these tell the same story all over the country—with "caused by defective wiring" fires running as high as 92%!

Remember this! Motor Age editorial investigation of 1940-47 cars proves that:

- 5 out of 10 need light wires!
- 6 out of 10 need battery cables!
- 2.5 out of 10 need ignition wiring!

Eliminate this fire hazard from the cars, trucks, and buses that come into your

shop by checking the wire and cable on every job! Don't compromise with your customers' safety. Show them the danger of cracked or worn insulation or corroded conductors . . . remind them that when the fire trucks roll, it's too late to prevent dangerous shorts.

And remember this! When you replace dangerous wiring with genuine Crescent Wiry Joe ignition wires and cables you not only eliminate the fire hazard, but improve engine performance in the bargain.



THE CRESCENT COMPANY, INC., Pawtucket, R. I.

Check the wire and cable on every car!



Sell 'em the pistons you'd pick for your own car



LOOK FOR
ALCOA
LO-EX



when you stock replacement pistons

CAST BY ALCOA
FOR PISTONS OF EVERY TYPE



T-SLOT



TRANS-
SLOT



STRUT



TRUNK
TYPE

One way to keep customers happy—and loyal—is to give their cars the same care you give your own. You do just that every time you install pistons of genuine ALCOA LO-EX! Engines run cooler, quieter—use less fuel. Full compression at all temperatures, thanks to low-expansion alloy and accurate piston design.

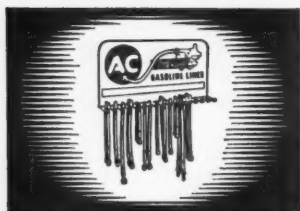
Always stock aluminum alloy pistons marked ALCOA LO-EX—cast by Alcoa, finished by expert piston makers. ALUMINUM COMPANY OF AMERICA, 1850A Gulf Building, Pittsburgh 19, Pennsylvania.

MORE HAUL PER OVERHAUL!



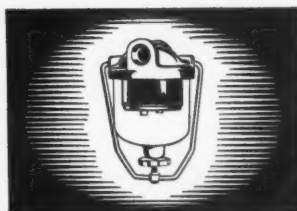
Mean a Big Replacement Market

During the last 14 production years, as many AC Spark Plugs were used as original equipment in new cars as all other spark plug makes combined. AC's are the only spark plugs with **CORALOX**, the patented Insulator, that resists oxide coating, assures surer firing at every engine temperature, provides longer life.



AC FLEXIBLE GASOLINE AND OIL LINES

Assortment, with attractive Wall Merchandiser, displays as well as stocks fast-moving numbers.



AC GASOLINE STRAINERS AND ELEMENTS

Available in handsome Counter Merchandiser for attractive display and easier sales.



Mean a Big Replacement Market

They're standard on Oldsmobile and Buick . . . factory approved for field installation on Chevrolet and Cadillac . . . available in types and sizes for all other makes. They offer the amazing new *Aluvac* Element—that has twice the dirt trapping capacity of the average element—for more than 80% of the big volume filter types.



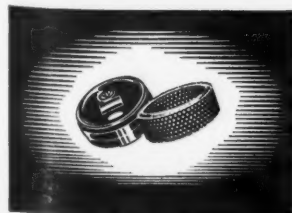
AC *Aluvac* Oil Filter Element



Mean a Big Replacement Market

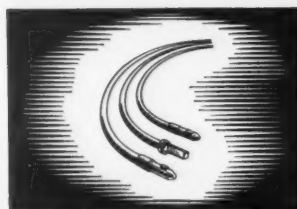
They are the *original* fuel pumps developed by AC 24 years ago. They were factory-installed on more than 90% of all automotive vehicles . . . more than 100,000,000 have been built, more than 40,000,000 are in daily use. They are designed, engineered and manufactured to but one standard of quality—the highest.

There are no better fuel pumps.



AC AIR CLEANERS AND ELEMENTS

Heavy-duty cleaners; renewal elements. AC's used as equipment by 80% of car manufacturers.



AC SPEEDOMETER CABLE-CASING ASSEMBLIES

Also supplied in tailor-made cables, or as bulk cable and casing, with parts.

NOW—MILLIONS ARE CALLING ON NEW 1951



The Smart New Styleline De Luxe 4-Door Sedan

AMERICA'S LARGEST AND FINEST LOW-PRICED CAR!

Yes, Chevrolet dealers are entertaining record crowds—the most enthusiastic crowds in their entire history—as men and women throng their showrooms to see the refreshingly new and thoroughly reliable 1951 Chevrolet.

Here's America's largest and finest low-priced car—looking even *longer, lower and wider* than its famed predecessor—thanks to distinctive new styling with entirely new front and rear-end design and new America-Preferred Bodies by Fisher.

And, with all these *new things*, it also brings motorists the *proved things* which cause more people to buy Chevrolets than any other car, year after year.

So overwhelming is the enthusiastic public's indorsement of this car—and so great the outpouring of orders for it—that Chevrolet dealers are fully convinced that they again have *the Number 1 car of the country* . . . in styling, in efficient and economical performance, in driving-ease and safety, and in sales!

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICHIGAN

YOU'RE FIRST WITH CHEVROLET

CHEVROLET DEALERS TO SEE THE

Chevrolet



Refreshingly
new

IN ALL THE THINGS
CAR-BUYERS WANT!

- NEW!** Longer, lower, wider big-car look!
- NEW!** Strikingly smarter Fisher Body styling!
- NEW!** Luxurious Modern-Mode interiors!
- NEW!** Jumbo-Drum brakes—largest in field!
- NEW!** Glare-Proof Safety-Sight instrument panel!
- NEW!** Improved, easier Center-Point steering!

plus **TIME-PROVED**
POWER *Glide*
AUTOMATIC TRANSMISSION

—proved by over a billion miles of performance in the hands of hundreds of thousands of owners.

Optional on De Luxe models at extra cost

... AMERICA'S FINEST FRANCHISE!

Chilton's MOTOR AGE, JANUARY, 1951



ANOTHER ONE OF BLUE STREAK'S
36,000 BOOSTERS!

THIS DIMMER SWITCH DOESN'T NEED GALOSHES

Down below the floor boards where dimmer switches sit, they take frequent duckings in mud puddles and slush. For some switches, this kind of exposure is like flirting with the angels—but the Blue Streak dimmer switch takes it in its stride.

Sealed clam-tight against water and moisture, there isn't much in the way of ordinary day-in, day-out service that can rattle this fellow. The fact is, in a laboratory test, it stood up for what amounts to 14 years of constant service. That's one long useful life for a dimmer switch.

Naturally, this Blue Streak switch built for such hard wear costs a bit more, but it's worth a lot more to your reputation. Call your jobber for a supply. *Standard Motor Products, Inc., Long Island City 1, New York.*

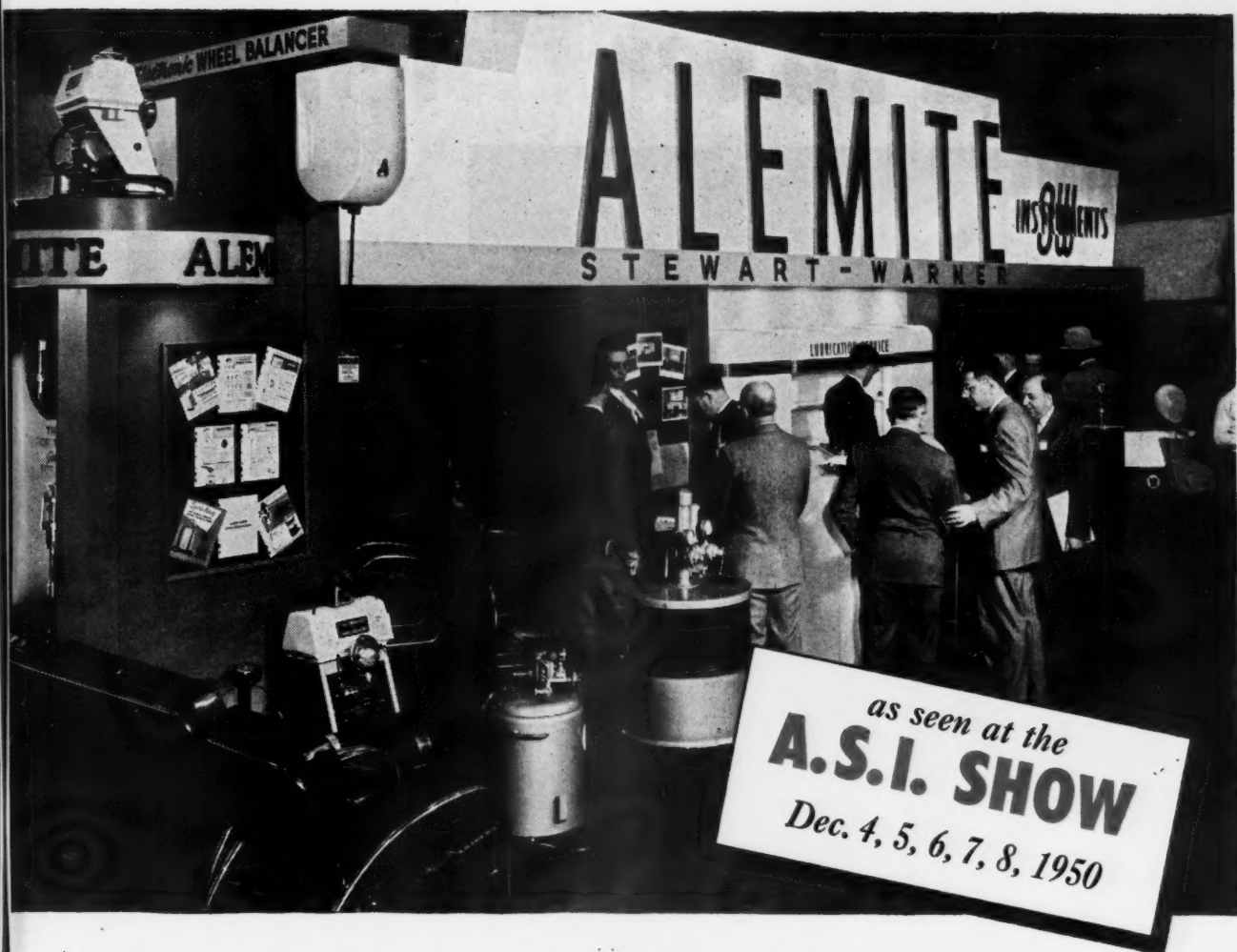
***Better your Business...
Buy Blue Streak***



A Blue Streak dealer for many years, Jack Buffington is rated "tops" around Texarkana, Ark. for motor work—especially ignition. Jack writes: "For my money, there's no other ignition but Blue Streak. Your company is to be complimented on the Ignition Service Bulletins you put out. They are down to earth, easy to understand, and full of helpful hints and suggestions."



COILS • POINTS • CONDENSERS • VOLTAGE REGULATORS • HEADLIGHT RELAYS • DISTRIBUTOR HEADS & ROTORS • DIMMER SWITCHES • WIRE & CABLE



FIRST IN POPULARITY

... as proved by national survey

first in Performance

... as proved by the record

- "Atomic" pump unconditionally guaranteed for 27 months.

The compact, powerful heart of the system must perform to highest specifications or Alemite replaces it at no cost to you.

- Units built in sections for greater flexibility.

Every Alemite unit has a "sectionalized" matched frame of steel, reinforced, rugged, durable. Combine units as you wish, expand your installation as you grow.

- Camatic "Air Lift" raises and lowers cabinet for quick changes of drums.
- Finger-tip, push-pull control shuts motor on and off at will.
- Fenders protect portable equipment, allow plenty of toe room.

- Better appearance with foldaway drain pan, stowaway hose.

- Faster, smoother, quieter movement with over-size ball bearing Bassick casters.

- Easier, accurate control with Adjusta shot control valve.

- Less stress and more protection for the hose with Alemite Hose Miser, Protective Hose Roller and Automatic snubber.

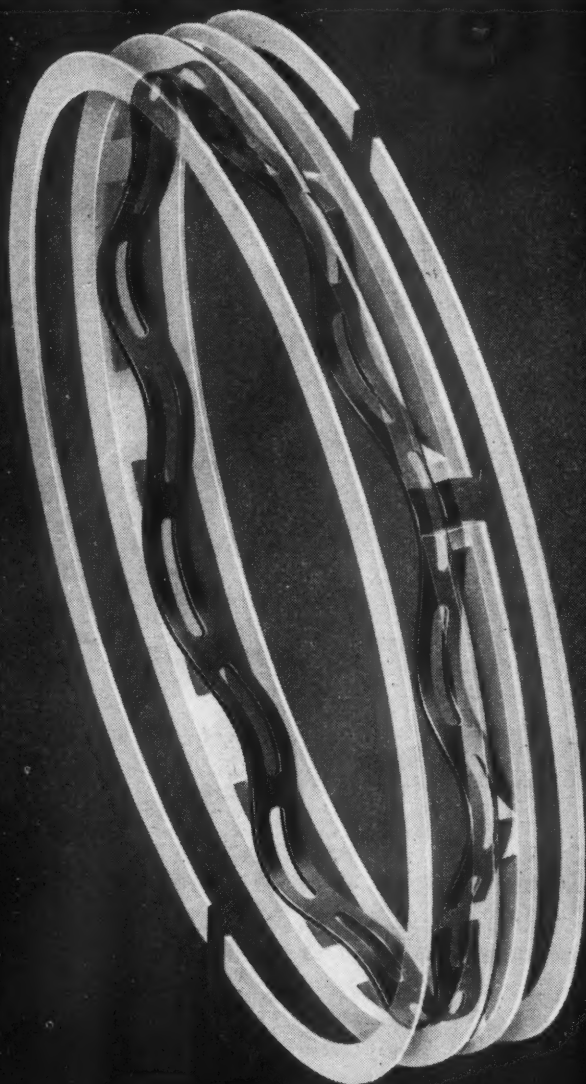
- Improved spring reel retracts hose automatically, stacks it evenly.



ALEMITE

PACEMAKER IN LUBRICATION PROGRESS
Another product of Stewart-Warner

Sealed Power Piston Rings



Sealed Power

MD-50 STEEL OIL RING

The only ring with the Full-Flow Spring

Best for Oil Control even in

**BADLY TAPERED and
OUT-OF-ROUND BORES**



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS

BEST IN OLD CARS



Sealed Power *CHROME-FACED* RINGS

For Triple Mileage

THE LATEST SCIENTIFIC
DEVELOPMENT TO COMBAT HEAT
FRICTION, CORROSION, ABRASION

The Call to SERVICE

ASIdeas



.....at work!

51,000,000 in 1951.

These are startling figures when one considers the possibility that 51,000,000 motor vehicles may be operating on American roads and highways in 1951.

The Call to Service in 1951 is therefore an urgent one. A check on the number of "pre-war" (1941 and older) motor vehicles discloses that there were nearly 20,000,000 cars, trucks and buses of that vintage in operation last year!

With our nation entering upon a most serious defense program, the always-essential motor vehicle becomes a vital cog in the vast mechanism of industrial and military preparedness.

"Automobile dealers serving America" was the theme of the National Automobile Dealers Association convention this week, and car dealers wholeheartedly pledged their support to our national defense plan.

All automotive retailers will answer this emergency call to keep America rolling. But they'll need parts and supplies, manpower and equipment to do the job.

In this issue, we present ASIdeas at work. Check them carefully and prepare to do the toughest job ever assigned the automotive service industry.

We know that the engine of world democracy has developed a heluva knock and only by our all-out effort can we aid in making it run smoothly again.



Frank P. Tighe

Editor

PRODUCTIVITY

the Key to Progress

In areas where tools and equipment are poor and horsepower per

worker low, human backs have to do what slaves of iron do here

OUR western civilization is really based on what might be called two great inventions.

One of these was political. It was the American Constitution, which is self-perpetuating, and made possible the maintenance of law and order, recognized the inherent importance of the individual and his personal rights, and put effective limits on political power—a great step forward in social progress. The other, broadly speaking, was mechanical. It started with Watt's invention of the steam engine, which made rapid economic progress possible.

The development of mechanical power and the development of the physical sciences that went with it substituted slaves of iron and steel for human backs. Our political invention, which is based on the religious concept of the importance of the individual, has given our people personal freedom, fulfilling for at least a part of the world the hope and aspirations of man ever since the dawn of civilization. These two great "inventions"—one political and one mechanical—have made possible great productivity, the key to our social and economic progress.

The founding fathers established a form of government under which each individual would be as free as possible to manage his own per-

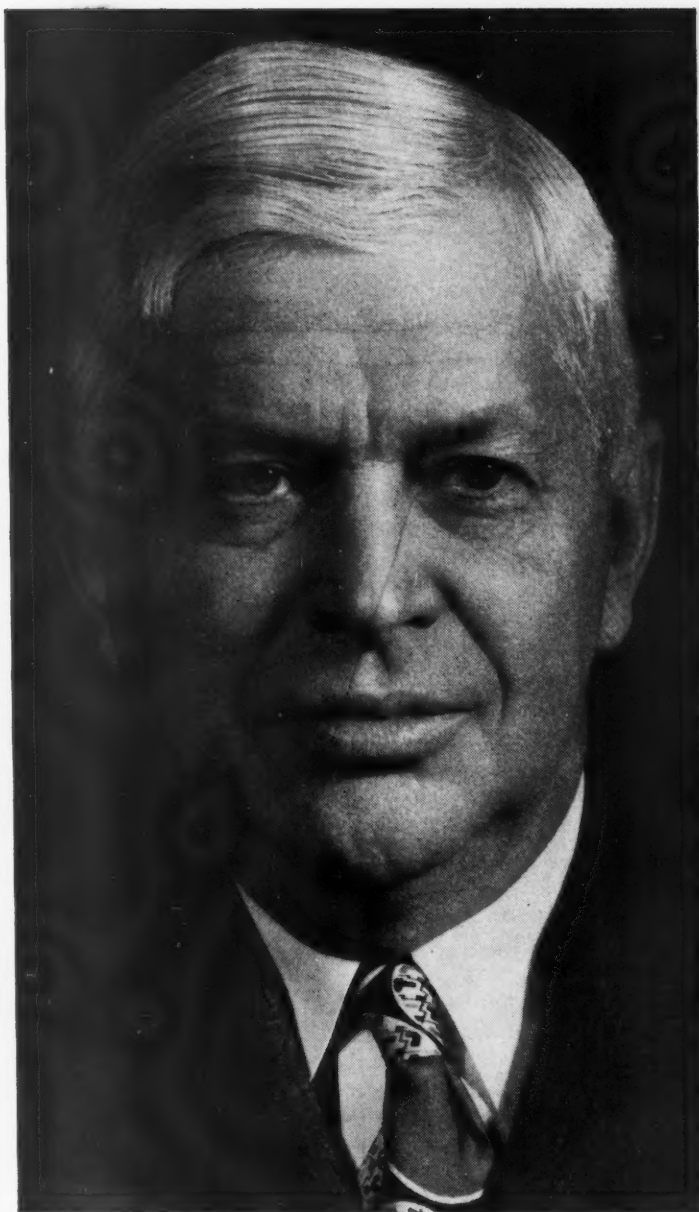
sonal affairs without interference by others and least of all by politicians. The formula and principles adopted to accomplish this are a remarkable political document. It placed the power in the people.

As a result, Americanism is still the new, progressive, liberal philosophy in the world today. Those who advocate other systems based on communism, socialism or any form of statism, while flying the flag of liberalism, are in fact advocating a system of society which substitutes the negative incentives of fear and coercion for the positive incentives of a free society, with the final result of enslaving the nations which adopt such philosophies.

The miserable condition of the people of Europe 100 years ago was not due to the reasons claimed by Marx but was due to low production caused by poor organization and the use of manpower instead of mechanical power, and was greatly aggravated by a long series of wars and conflicts.

Since the dawn of civilization, man has had to struggle against nature for food, clothing and shelter. And, even in our time, in only a few countries, represented perhaps by not more than 20 per cent of the population of the world, have

by C. E. Wilson
President, General Motors Corp.



all the people regularly had all they wanted to eat.

Wages must be low and hours of work long and the standard of living low when productivity is low. Productivity is low when tools and equipment are poor, when horsepower per worker is low and when the work is not well organized. Under such circumstances, human backs have to do what slaves of iron and steel do here in America.

For more than 150 years, free men here in America have had the opportunity to educate themselves, choose their own religions, select their own occupations, accumulate capital and invent better ways of doing things.

This is why the people in the United States are so much better off than people in the rest of the world. Our high standard of living cannot be explained on the grounds of greater natural resources nor of racial superiority. The answer lies in *the simple fact that by accepting the challenge of individual competition as a responsibility*

that comes with personal freedom, we have done a better job of applying our human energy and individual initiative to the improvement not only of ourselves but of all.

Our political system that permits and promotes individual enterprise, personal responsibility, free competition, respect for the rights of others, freedom of choice and decision, freedom itself, is the final and important factor that makes the

(Continued on page 138)

Parts Availability in 1951

THE automotive service industry is entering the year in good shape. Distributors and jobbers have been buying heavily and there is no valid reason for supposing that they will suddenly cease purchasing. Although their inventories are probably at the highest level since the war, there is an enormous volume of service business now drawing against these inventories.

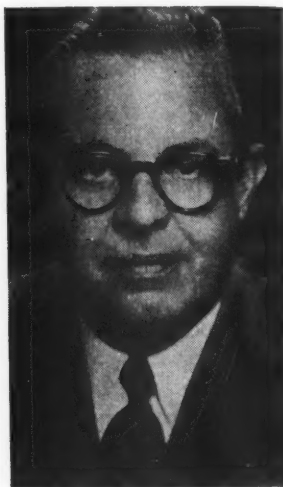
In discussing percentages and comparative figures it is all too easy to lose sight of the great fact—there are more cars driving more miles than ever before. And that means that fundamentally the volume of business is larger than ever before. We must use this fact as a basis for any analysis which would be valid. There is, however, an artificial dam being tossed across this stream.

For various necessary reasons, like the demands of national defense, and for some unnecessary ones, the federal government is setting blocks across the stream of production, and it may well block the channel of distribution, too.

How will that affect the automobile service industry? First of all it may mean drastic cuts in new car production which means that more people will be intent on repairing older cars.

But the same cuts in materials which affect the production of new cars will also affect the production of parts and accessories.

Steel of all kinds and grades, copper, zinc, rubber are all going to be hard for parts manufacturers to procure for even now government requirements are felt all along the line. As the national emergency needs increase, availability



by **C. C. Tapscott**
**President, National Standard
Parts Assn.**

for civilian use will necessarily decrease also.

And although hidden in the fine print of the National Production Authority order there is a clause stating that aluminum for "maintenance, repair and operating supplies" is exempted from the cut, automotive parts and equipment producers will have to scramble with other buyers for the short supply of this metal.

The same pattern will probably hold true as other metals become of greater importance to the government.

At the present time lead is not scarce, but if the military program is accelerated, it too would become rapidly hard to find.

In the light of current events it looks pretty much as though the government will make materials hard to obtain and may fix the profit in one of several ways. But to determine his profit for next year the independent shop owner, the dealer, the jobber and the manufacturer must all look toward Washington.

"Train More Mechanics"

by Major General Lewis B. Hershey, Director of Selective Service

CRITICAL times call for blunt language and the facing of facts, no matter how unpleasant those facts may be.

I believe that industry as a whole is facing the fact that it must utilize manpower as it has never been utilized before. But if this realism is to accomplish any purpose a number of very definite steps must be taken by industry. Those steps include immediate training programs for the replacement of young men who inevitably will be drafted; training of older men, persons physically handicapped, and also women, to supplement the civilian labor force so essential to forging the materiel we must have to protect our existence.

If this is done there is hope of holding the age limit of those liable for service under the present Selective Service Act somewhere near the present 19 to 26. If it is not done the hope is very vague indeed.

The reasons for this are simple and easy to understand. In any age group there are just so many men. The more of these we defer—for whatever reason—the sooner the supply becomes exhausted, and the sooner it becomes necessary to expand the age limits. And if we are compelled to expand very far upward, then industry will be forced to give up men industry can

(Continued on page 131)



TOMORROW'S CAR

A NEW General Motors experimental car, containing many of the latest engineering and styling developments, will soon be on the road.

Le Sabre, a custom built two seater, will be a "laboratory on wheels" for testing both mechanical and styling ideas which are developed within the General Motors engineering circles. According to Harley J. Earl, GM Vice President in Charge of Styling, this is a car of the future only in the sense that some of its design or mechanical features may appear some day in standard motorcars.

Construction of Le Sabre is expected to be completed within two months, the first showing having been in the form of a full-size plaster model. The actual car is to be constructed of magnesium and aluminum alloys, but from

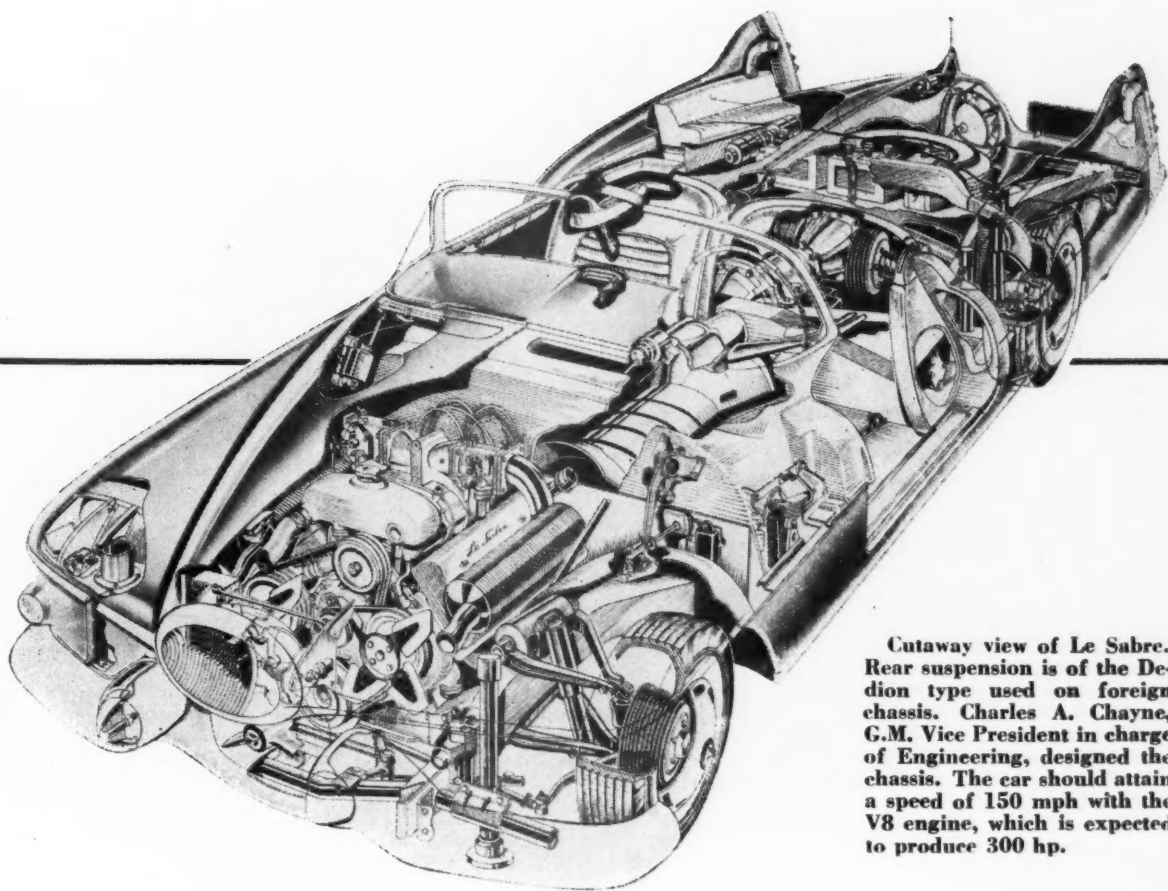
the standpoint of cost, these materials would be out of the question for production models.

Le Sabre will be powered by a supercharged custom V-8 engine with 10-to-1 compression ratio. Its dual fuel system will utilize current premium fuels and methyl alcohol, the

(Continued on page 124)

GM's new experimental car, Le Sabre, is

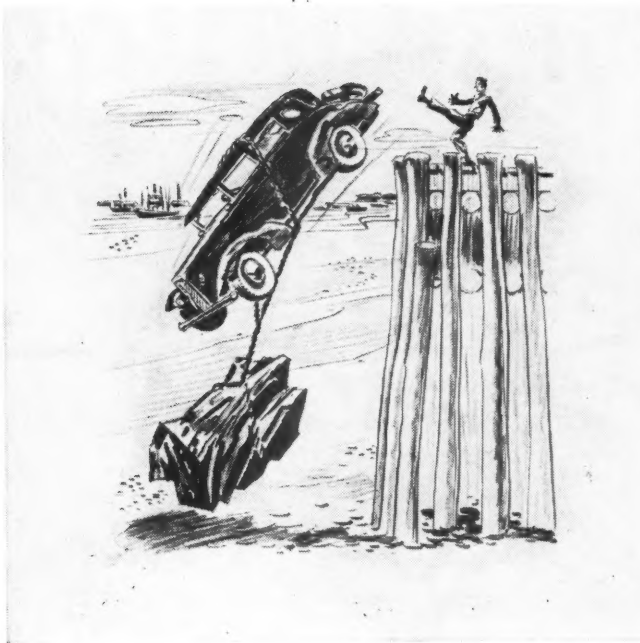




Cutaway view of Le Sabre. Rear suspension is of the De Dion type used on foreign chassis. Charles A. Chayne, G.M. Vice President in charge of Engineering, designed the chassis. The car should attain a speed of 150 mph with the V8 engine, which is expected to produce 300 hp.

testing engineering developments which may appear on production cars of the future





In Trenton, N. J., police traced a car which had plunged into the Delaware. When asked about it, the irate owner admitted he was disgusted with his jalopy and decided to drown it.



At Long Beach, Cal., Mr. Safety First got a traffic ticket for making a left turn without signalling. Lucky for Mr. Safety First no one was hit by him or he would have been nameless.

It Happened in 1950

JANUARY 4. Kaiser-Frazer Corp. disclosed that Willys-Overland Motors will make the new "Supersonic" engine for K-F's low-priced model . . . **Jan. 10.** Chrysler's Dodge Div. slashed the prices of its trucks from \$40 to \$125 . . . **Jan. 16.** Harvey S. Firestone, Jr., chairman, Firestone Tire & Rubber Co., predicted increased demand for foam rubber seeing it as a replacement for coil springs in car seats . . . **Jan. 18.** GM is planning a sharp increase in the production of cars in the first half of 1950 . . . **Jan. 19.** If the coal strike continues, GM's production will be cut on March 1, according to C. E. Wilson, GM president . . . Cadillac cut prices of 1950 models from \$5 to

\$186 . . . **Jan. 20.** Ford announced cuts of from \$20 to \$148 in the prices of trucks and station wagons . . . **Jan. 23.** Preston Tucker and seven associates acquitted on fraud and conspiracy charges . . . **Jan. 24.** C. E. Wilson, GM president, disclosed that because of competition from good used cars, GM is not planning to build a small automobile in the U. S. . . . **Jan. 25.** The CIO-UAW workers struck at Chrysler Corp.'s plants . . . **Jan. 27.** Suppliers of bodies and parts for Chrysler layoff workers . . . **Jan. 31.** The CIO-UAW and the independent International Association of Machinists agreed not to raid each other's locals.

FEBRUARY 2. Studebaker slashed prices of



At Myrtle Beach, S. C., car dealers paraded their cars each with a beautiful model. By some misfortune Miss Chevrolet arrived in a used DeSoto, and promptly won the beauty prize.



In Detroit police chased a speeder all the way to the bottom of the Detroit river. Hauled him out of thirty feet of water then gave him a ticket for speeding.

By William T. Bostelman

1950 passenger cars from \$82 to \$135 . . . Feb. 3. Hudson cut prices on 1950 models from \$87.50 to \$166.50 . . . Feb. 8. At the National Automobile Dealers Association convention in Atlantic City, George Ziesmer, president, stated that there was an alarming growth in the bootlegging of new cars . . . Feb. 9. At NADA convention dealers said that overproduction is a spur to cutthroat retail price cuts . . . Feb. 20. Unless coal situation improves, Ford plans to reduce production schedules . . . Feb. 21. Automobile Manufacturers Association urged Congress to repeal excise taxes on automobiles and parts before they cause a setback affecting all business . . . Feb. 25. As wages dropped with living

costs under GM's cost-of-living contract, the company cut prices from \$10 to \$40 . . .

MARCH 3. Chrysler net of \$132 million and production of 1,267,470 automobiles in 1949 set new records . . . **March 8.** Sales and prices of used cars across the country are picking up sharply . . . Walter Reuther, UAW president, stated that the union's aim is pensions of \$200 a month . . . **March 9.** Studebaker's 1949 net of \$27.5 million was a new high for the company . . . **March 13.** Chrysler strike is tough on 10,500 dealers and their 105,000 employees . . . **March 14.** GM reported record-breaking 1949 sales of \$5.7 billion and net income of \$656 million . . . **March 15.** Studebaker announced low-priced Champion model . . . **March 17.** Funded pension plan with company payment fixed at seven cents an hour provided in new Nash-UAW contract . . . **March 31.** Willys-Overland

(Continued on page 120)



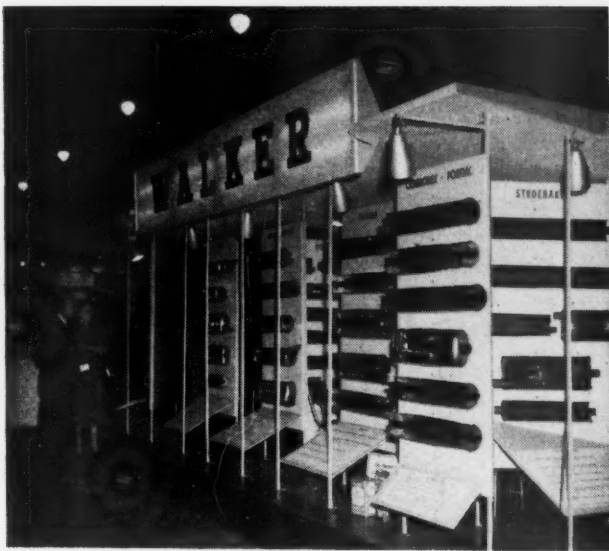
Where **AST** Ideas Come From

THE Automotive Service Industry Show is the biggest booth show in the world. More than 500 manufacturers of automotive replacement parts, service equipment, and accessories display their products to jobbers from all over the country. This year 16,873 people were registered at the show, manufacturers, wholesalers, and guests. It took 175,000 square feet to hold the displays, or to put it another way, nearly eight miles of booths lined up side by side.

The show this year was the second largest in history, surpassed by the phenomenal 1948 show.

The jobbers who attended took back with them to all parts of the United States and Canada a working knowledge of what products were ready to be marketed this year. And in many instances they took back with them, too, good sound ideas for helping you to sell these products to your customers.

At their various meetings they were addressed by some of the best speakers in the country, men drawn from government, from financial houses, from manufacturing companies, and from the service industry itself. From these men they gained a knowledge of what to expect next year and of how best to build their business and yours in the light of current events.



Your jobbers saw full lines displayed . . .



They studied products . . . and models



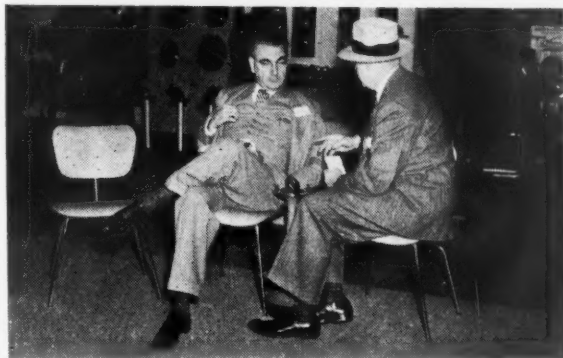
. . . and saw new developments



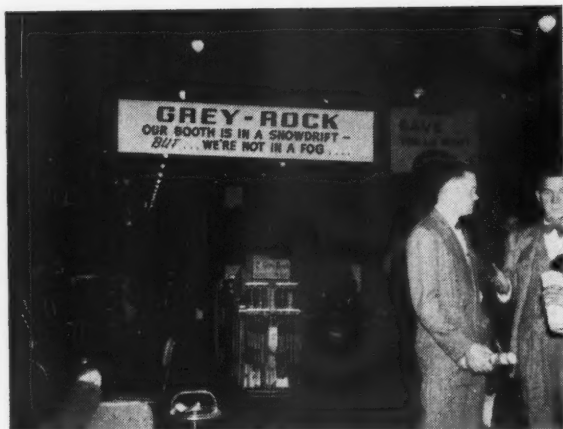
. . . they tried new tools

They met many friends . . .

. . . discussed clever sales promotion plans



Where ASI Ideas Come From



They talked business . . .



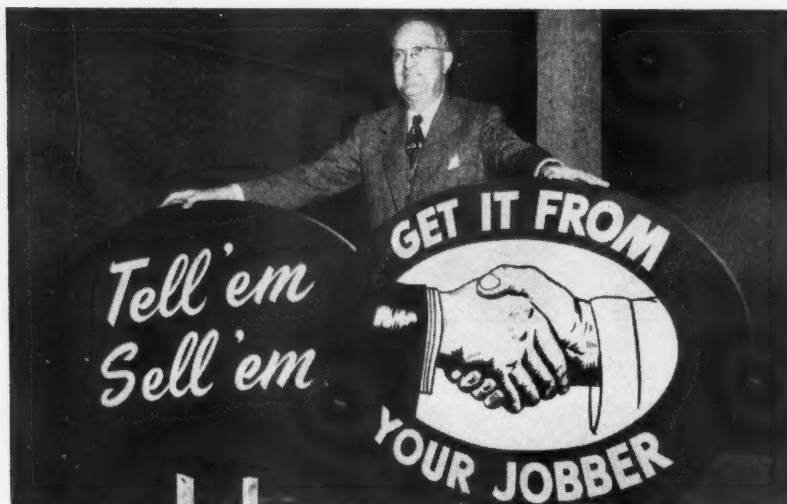
They posed with models . . .



. . . and collected awards and honors



. . . and talked more business



And at the end of the show, A. B. Coffman, the show manager, could stand satisfied behind his displays. The manufacturers of your products had been given a chance to meet your jobbers, to "Tell 'em" and to "Sell 'em" so that they can now pass on to you the newest and the best industry products and plans so that you can meet your own customers and put ASIdeas to work!

ASIdeas

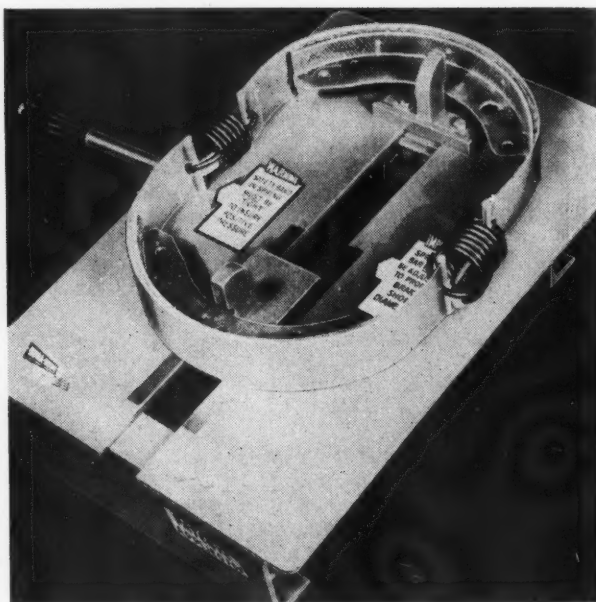


.....at work!



ASIdeas *It work*

For further information use postcard on page 57

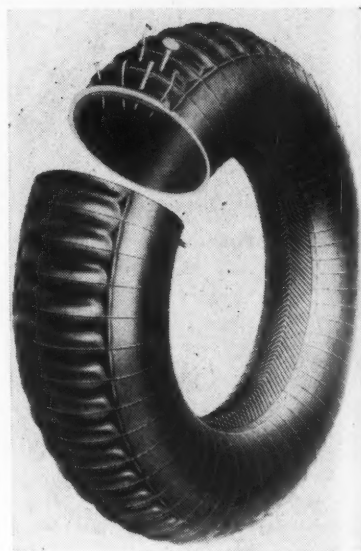


▲ 1. Lift Control

Rotary Lift Company has a new full-view flush control for use with its mechanics' lifts. The control box, with control keys and air valves, are recessed in the floor near the lift. This places the operator in position to see that the car is properly positioned on the lift for raising, then to easily raise the car to the desired height. No control valves or air valves have to be placed on the wall, the manufacturer states. The control system features new pilot control valves which are operated by "piano key action."

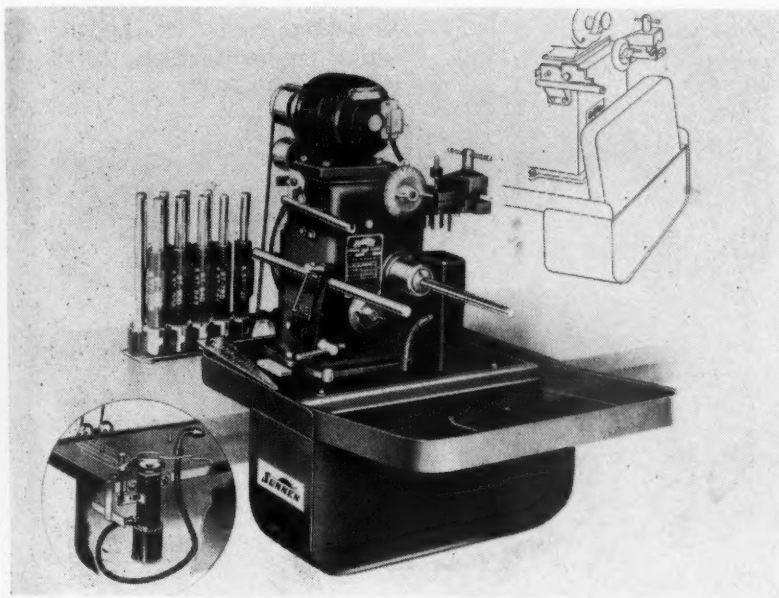
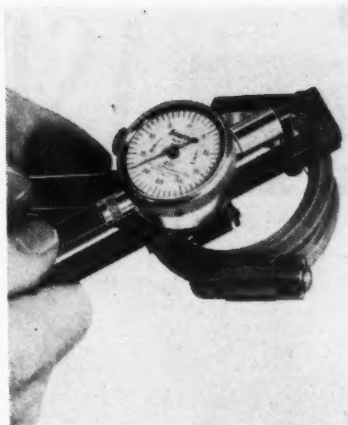
2. Brake Bonder ▲

Dura-Bond, Inc., is featuring the hydraulic pressure and assembly table for bonding brake lining to shoes. Truck and passenger car brake lining and shoes are said to be easily clamped together two-at-a-time under pressure of stainless steel pressure bands. Shoes and lining in the pressure band assemblies are lifted from the table in a rigid clamped unit under constant spring follow-up pressure during oven bonding. The Dura-Bond pressure table is self-contained and has standard replaceable parts.



4. Dial Gage

The L. S. Starrett Company is announcing the Starrett Out-Of-Roundness Gage. It consists of a base on which is mounted a dial indicator, and on the bottom an adjustable slide which is said to be marked to size or gap width. The sliding head has two line contact points under spring tension insuring alinement at all times. Capacity is 1¼ in. to 5 in.



5. Honing Machine

The Sunnen Products Company is manufacturing an improved model of the Sunnen honing machine for fitting pins and pistons, connecting rods, spindles, and other bushings. Among the features claimed for the new unit are a re-vamped oil pumping system which assures a positive stream of honing oil, and a gage which enables the operator to fit piston pins to within .0001 in. of the desired diameter. A new accessory just announced for use on this machine is a bushing expander used for locking bushings in worn, rough, or out-of-round bores.

3. Inner Tube

The Armstrong Rubber Company is producing puncture-sealing tubes. With the plastic sealing feature, no air can escape before or after removal of an object, for the hole is sealed with especially treated plastic lining compound. A crown design on the tube takes care of unusual punctures where an extra amount of rubber is required to seal the hole. Should such a "freak penetration" occur, the extra rubber of the crown squeezes around the puncturing object, with the tube losing only a slight amount of air.



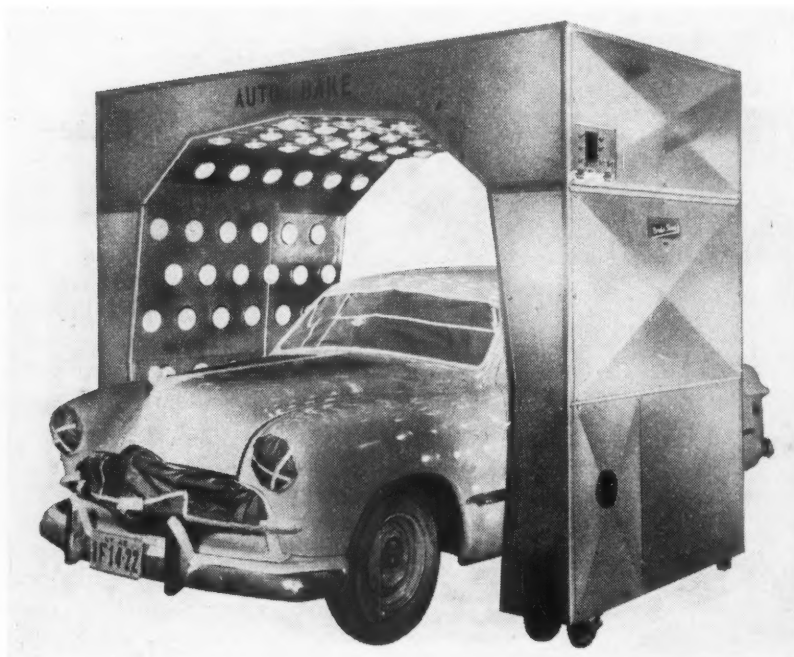
6. Battery Chargers

Heyer Industries Incorporated is introducing an entirely new line to be sold exclusively through Automotive Wholesalers. The new line features a Mobile 100 ampere DeLuxe Model, as well as several Portable Fast Chargers, designed for fast charging with safety, due to a thermostat control. Also included are several models of Slow Chargers, Warehouse "Boosters," and Trickle Chargers. Featured items in the line are the Heyer OCV (Open Circuit Voltage) Tester, and a convenient new Battery Servicer.



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▲ 7. Drying Oven

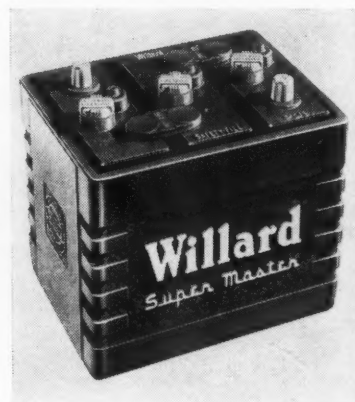
American Brake Shoe Company, Kellogg Division, announces the Auto-Bake, a new infra-red oven which is designed for use in car dealers and body shops. The Brake-Shoe Auto-Bake is designed for drying car enamels quickly. It is a motorized tunnel of infra-red lamps designed to move along a guide rail over and past newly-painted automotive vehicles, drying and curing the fresh paint coating to a dust-free finish. The oven is moved over the vehicle at speeds which can be adjusted from 6 inches to 48 inches per minute.

8. Tire Cleaner

Cecil H. Jarrett Company, Inc., announces the availability of Jarrett's Wite-Wall white sidewall tire cleaner. The chemical is a gelatinous solution used with a wire brush for cleaning stained and scuffed white sidewall tires without harm to the tire or the user. According to the manufacturers, one gallon will clean approximately 300 tires at a cost of less than one cent per tire. The compound is available in blue and white lithographed gallon can as well as in resale packages of pint and quart size. Also sold in 55 gallon drums.

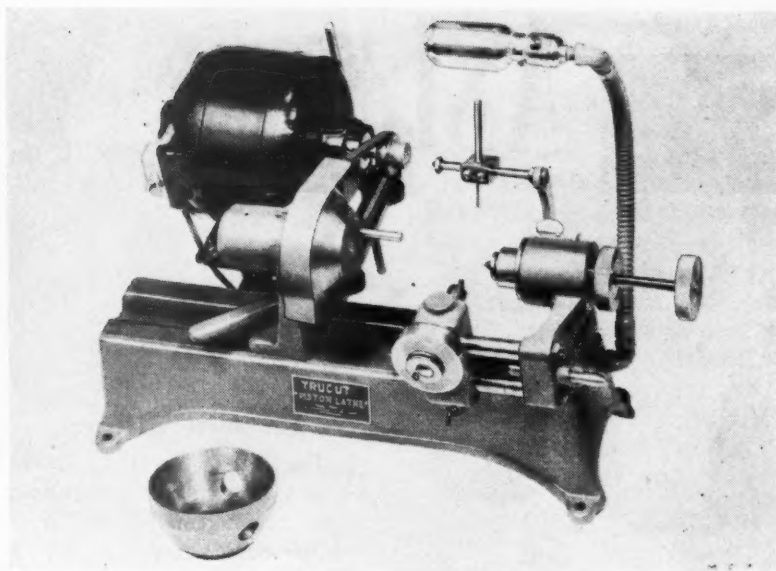
▼ 9. Battery

The Willard Storage Battery Company is featuring the Super Master, made of Metalex, a grid material said to provide 100 per cent more protection against overcharge. Also, a newly-developed active material is claimed to provide extra power needed for snap starts in any weather. The Super Master's redesigned container is reinforced at points of stress providing increased resistance to vibration and jolts. Spot bib rubber insulators resist the burning, charring action of high temperature electrolyte.



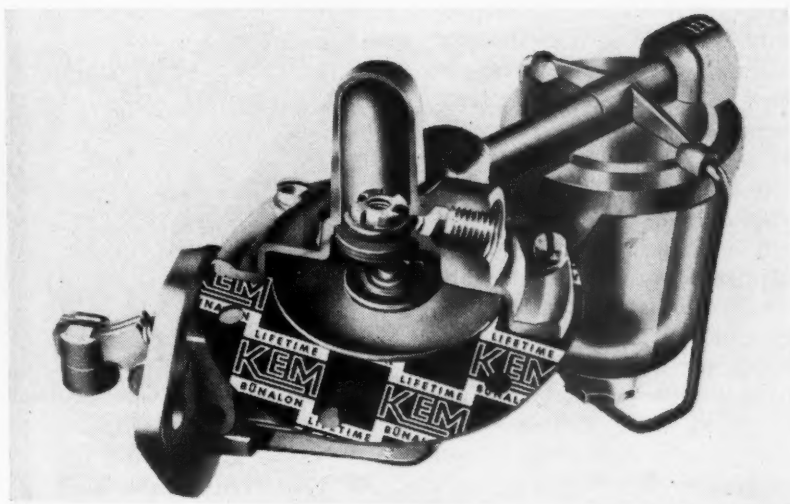
10. Piston Lathe

The Frank N. Wood Company is producing the Trucut piston lathe, a power driven machine for use in re-ring jobs. The lathe is said to clean ring grooves, re-groove upper ring groove for installation of spacers or over-size rings, drill centers in centerless pistons, clean centers on pistons already centered and machine grooves for inserts that fit into recessed bottom of groove. This machine will handle pistons in diameters of 2½ in. to 4½ in., according to the firm. It requires 14 in. by 19 in. of bench space.



11. Pump Diaphragm

The Kem Manufacturing Company is making a new type of diaphragm for fuel pumps. Called Bunalon, it has a single layer construction which eliminates destructive in-between multi-layer friction and remains flexible under adverse motor conditions. Coated with specially formulated Buna-N rubber which is highly resistant to the harmful elements found in the fuel system, the diaphragm is said to be practically indestructible.



12. Tire Chains

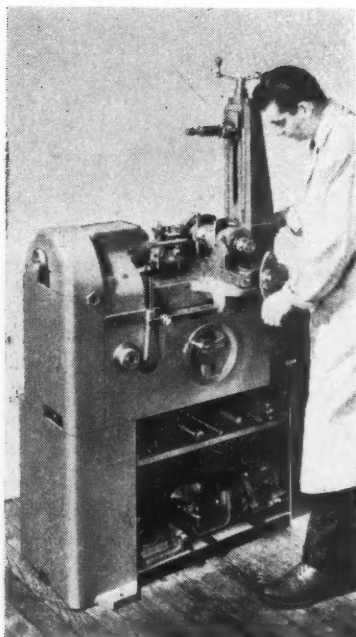
The Roll-O-Matic Chain Company has developed a new tire chain which features rolling links. The patented rollers enable the cross links of the Roll-O-Matic tire chain to turn, thus distributing the wear on two sides of the cross links instead of one. The principal advantage claimed for this design is longer wear. Another feature pointed out is that the cross links snap on and off and eliminate the need for tools in replacing the cross links.





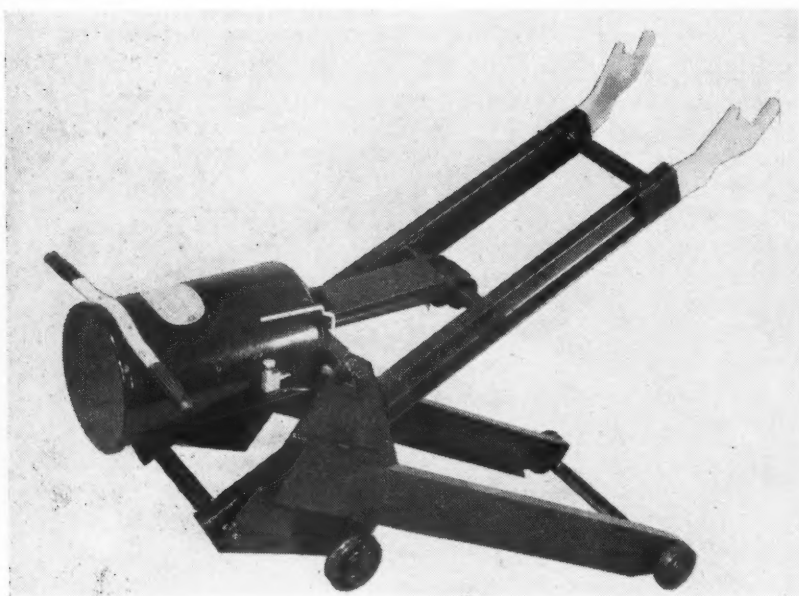
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◀ 13. Pin Fitter

The Van Norman Machine Tool Company has announced a new automatic pin-fitting machine designated as No. 232. This model is designed to handle six specific jobs: 1) Boring wrist-pin holes in pistons by centralizing from worn hole or bushing. 2) Boring wrist-pin holes in rods, centralizing from worn bushing. 3) Boring wrist-pin holes in con-rods parallel with large end. 4) Boring piston-pin holes in rod parallel with large or bearing end. 5) Boring con-rods, large-end bab-bitted type, parallel with wrist-pin hole. 6) Boring large end of rod-forging to bring it back to the proper size.



▼ 14. Tripod Jack

Vulcan Mfg. Co. is producing the Universal Tripod Saf-T-Lift, a folding jack which lifts the car from a triangular base. This jack features safety and ease of operation. This tripod arrangement is said to make the jack useful on uneven ground and practically impossible to upset. Ball bearing construction, the firm states, provides ease of operation, even for a woman. The jack is made of channel and angle iron.



◀ 15. One End Lift

Automatic Steel Products, Inc., announces their Model "B" One-End Lift which is said to give increased "reach" under the car with little or no increase in overall length as compared to the original Model A. This lift is designed to offer increased accessibility and safety in its automatic lock assembly. The unit is said to be easier to handle and position under the car, and to have an improved cylinder assembly. Wide spread lifting hooks fit all the new transmission housings and allow the operator to lift the front end of the car without using a special front end adapter.



◀ 18. Electrical Tape

Minnesota Mining and Mfg. Co. is featuring "Scotch" brand electrical tape No. 33, a vinyl plastic material that offers a single tape for doing job that formerly required the use of two or more conventional tapes. Used for motor work and other wiring jobs, the tape is also employed for such work as temporary repair of heater and radiator hose, and for repairing the rubber around car doors and windows, where leaks occur.

▼ 16. Spray Kit

E. I. DuPont De Nemours, & Company, Inc., is featuring the DuPont Spray Glaze "Premier" assortment for automotive service shops which supply Spray Glaze. The equipment includes: two gallons of Spray Glaze; one gallon of Spray Glaze Cleaner No. 1; one gallon of Spray Glaze Cleaner No. 2; and a complete DeVilbiss Spray Outfit including gun, air pressure regulator, condenser, gage, and 25 ft. of hose, all the special materials needed for the job.

17. Tire Chains ▶

The American Chain & Cable Company, Inc. is now featuring the Weed American V-Bar Reinforced Passenger Car Tire Chain. These chains have 288 gripping points with the new Reinforcing V-Bars. The bars have right and left hand twist, that are double welded to the cross chains. The chains are equipped with positive-locking, quick-operating red lever lock fasteners. The firm also offers the Zip-On tire chain applier, to speed installation of chains.





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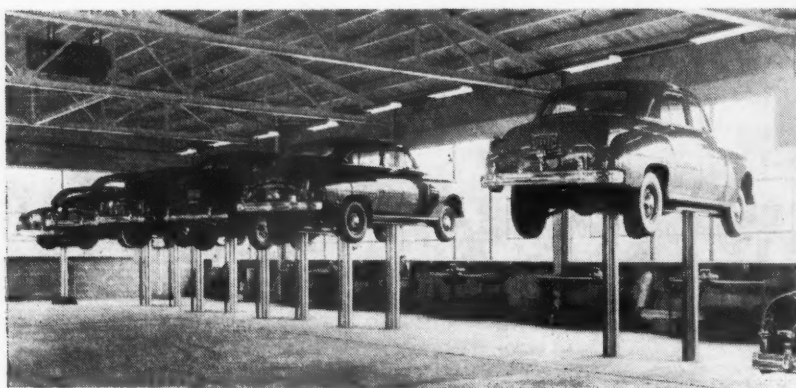


▲ 19. Impact Wrench

The Chicago Pneumatic Tool Company is offering a complete line of CP controllable air impact wrenches. Available in three models, the CP wrenches are said to handle up to 1 in. bolt size nuts. All models feature short overall length, ease of operation, powerful impact, detachable CP angle heads, making the wrenches useful for working in tight and hard-to-get-at areas.

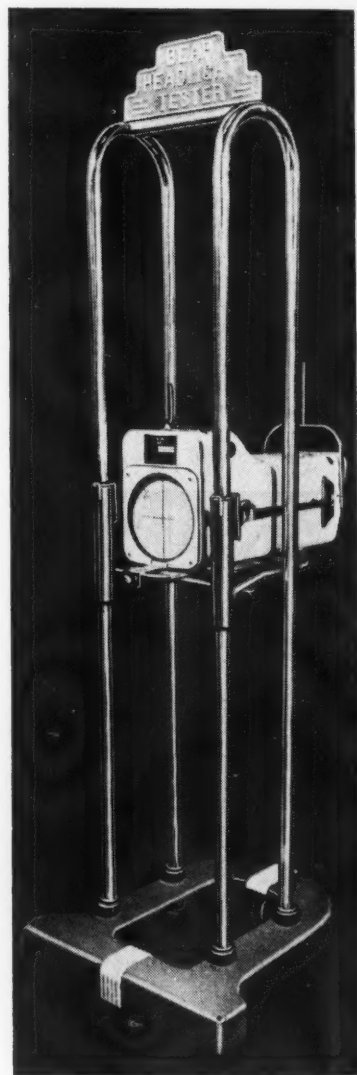
▼ 20. Hoist

The Globe Hoist Company announces the F-27 Frame-Kontakt Hoist, a unit for lifting the automobile by its frame instead of by its wheels or axles. Two flat plates supported by dual synchronized hydraulic cylinders contact each side of the car's frame to raise the vehicle. A clear aisle of space is created, extending the full length of the car and permitting accessibility to underside parts.



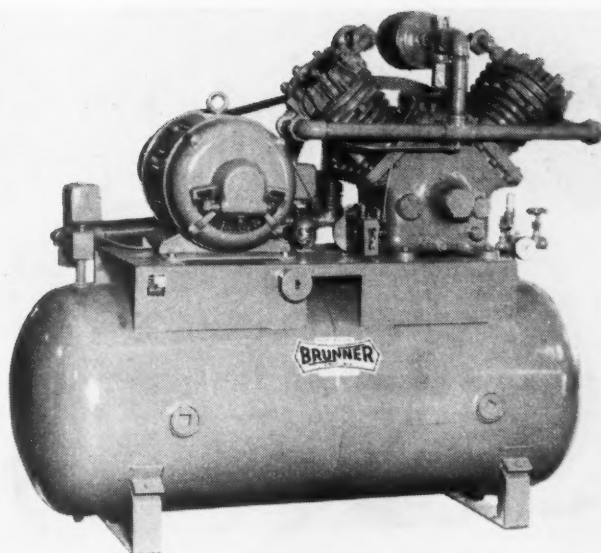
▼ 21. Light Tester

The Bear Mfg. Co. is featuring the No. 560 headlight tester. With this tester, finding the highest intensity area is made positive by a photo-electric cell process, the manufacturer states. The exact center of the light being tested is identified by a small light dot on the tester screen. Positioning of the cell has finger-touch control. Positive leveling of the testing box and an improved sighting tube are designed to provide easy operation and fast, accurate work. Up and down positioning is improved.



22. Air Compressor ▶

The Brunner Manufacturing Company is featuring a complete range of sizes of air compressors including a four-cylinder, 5 hp unit which is equipped with the new Brunner-Matic tank drain. One of the latest developments in these compressors is a switch which makes it possible to change the compressor from stop and start to constant speed operation or vice-versa. The Brunner Horizontal Compressors with 60 gallon tanks or larger have a new cradle base, which makes leveling on any type of floor possible.



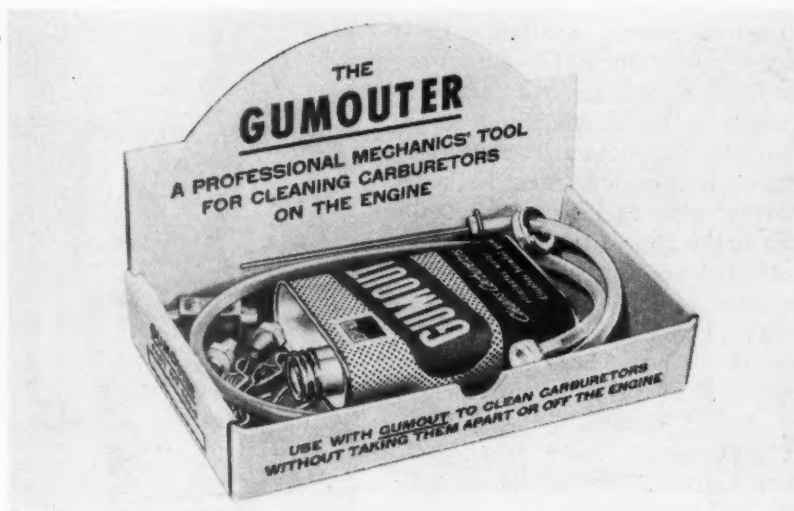
◀ 24. Air Gun

The DeVilbiss Company is introducing a new air dusting gun for blowing dust, dirt and moisture off all types of equipment. Features of this gun are large pistol grip, full length squeeze type trigger, removable nozzle, concentrated air jet, convenient hanger hook and an air valve that is easily removable for service. An extension model of the new DGB dusting gun is also available for use in cleaning hard-to-reach spots and in general repair work.



23. Cleaning Kit ▶

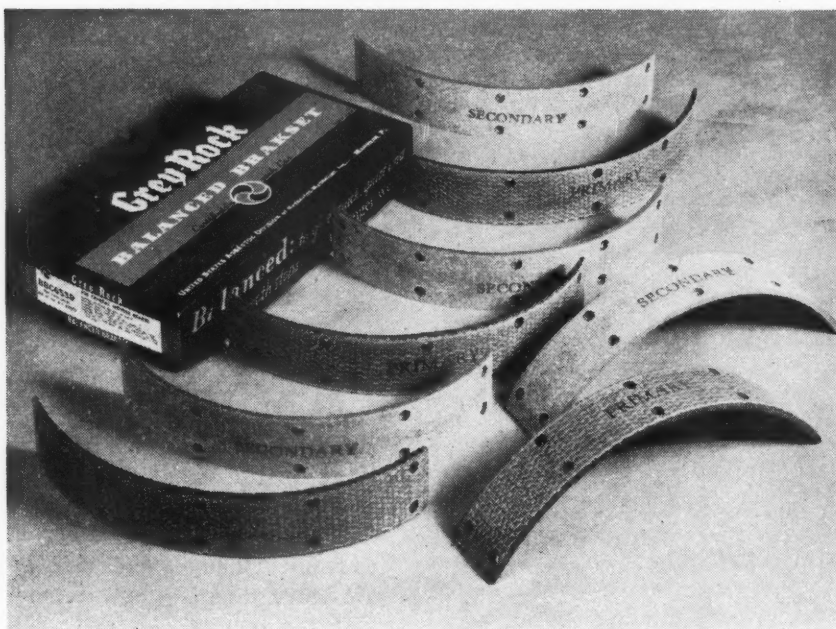
The Pennsylvania Refining Company announces the Gumouter, a professional mechanics' tool for cleaning internal parts of carburetors. The Gumouter is used by detaching and plugging the fuel line, installing a fitting into the carburetor intake and attaching a hose and a pint can containing a 50-50 solution of Gumout and gasoline, which is gravity fed to the carburetor while the engine is running. The job is done in about 20 minutes.





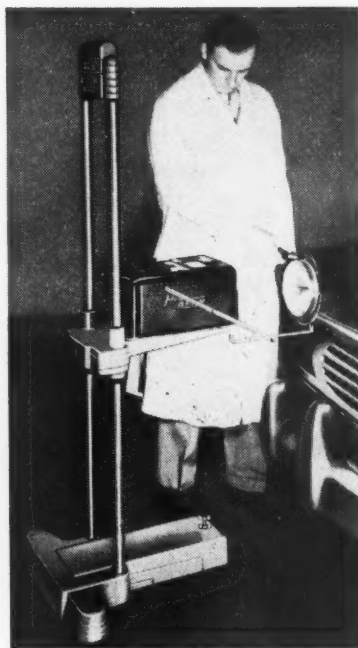
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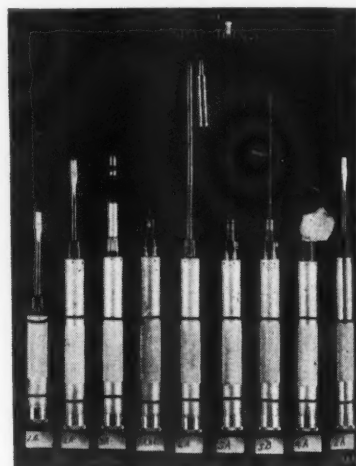
▲ 25. Brake Sets

The Grey-Rock Division of Raybestos-Manhattan, Inc., is manufacturing Grey-Rock Balanced Braksets, available in two types—drilled and counter-sunk for riveting to brake shoes; or plain, undrilled for bonding. The manufacturer claims that each segment is the correct size and arced to fit the brake shoe for which it is intended, and for riveted installations are drilled and counter-sunk to vehicle manufacturer specifications. These sets are made from many different types of lining materials, designed to overcome brake troubles such as grab, dive, squeal, short life, and unequal wear.



▼ 26. Hand Tools

Spot Tools, Inc., is featuring a line of illuminated hand tools including screwstarters, mechanic's mirror, magnetic pick-ups, inspection tools (spring hooks, push hooks, scribes), Phillips and Reed screwdrivers, and piano action regulators. The tools are made with aluminum knurled handles and are furnished complete with standard bulb and two batteries. A special double spring cushion keeps the bulb from breaking if the tool is dropped. The nose of the handle is made of plastic to light the working area.

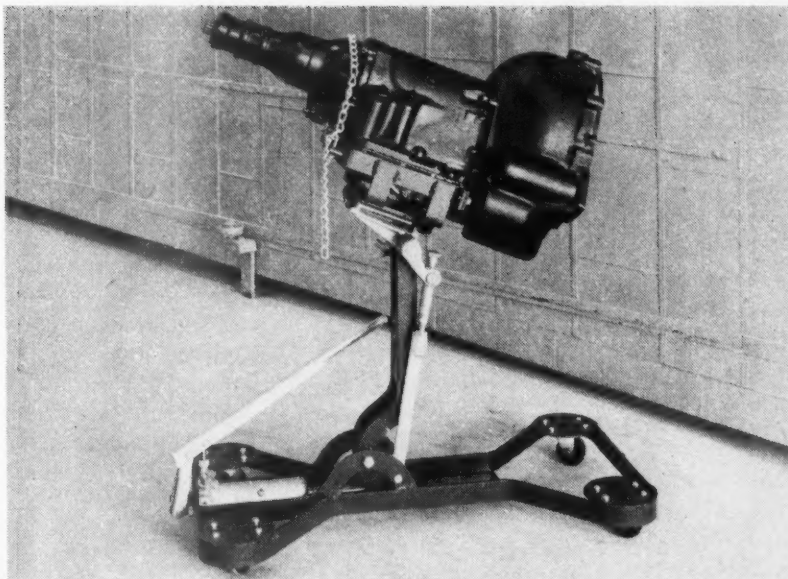


◀ 27. Portable Tester

The John Bean Division is featuring a new portable headlight tester, designed for use on all vehicles. The manufacturer states that the tester can be used in any part of the shop and is convenient for storing. Because no track is required, installation costs are eliminated. A special calibrated indicating system designed for direct readings permit the mechanic to read the gages and make adjustments from the same position. A leveling adjustment provided on the base of the tester makes it possible to use the unit on sloping floors.

28. Special Jack

The J. O. Stephenson Foundry and Mfg. Co. have developed a unit for servicing the Fordomatic and Mercomatic transmissions. Called the Hi-Jack, this jack has controlled movements, sliding side to side, tilting front to back, and left to right. An automatic overload release protects car equipment and operator. A special "No Rotation" lock has been provided which locates and holds transmission carrier in a fixed relation to the base in lowered position. It can be adapted for other units as well.



29. Office Machine

The National Cash Register Company is marketing the National "Class 31" accounting machine, which is said to make possible complete mechanization of accounting for automotive dealers. The machine incorporates a combination of features including a "fluid drive" carriage with an automatic opening and closing feature, an electric typewriter for complete descriptions, and a standard adding machine keyboard. Sales summaries, profit reports, accounts receivable and payable can be prepared on this machine.



30. Shoe Tester

The Permafuse Corporation is featuring the Permafuse "Mighty Midget" bonded brake shoe tester, designed to operate on compressed air. The bonded shoes are tested by inserting the shoe under a fixed jaw which has notches to match standard shoe widths from $1\frac{3}{4}$ in. to 3 in. and applying a selected testing force against the brake shoe by push button controlled air pressure.

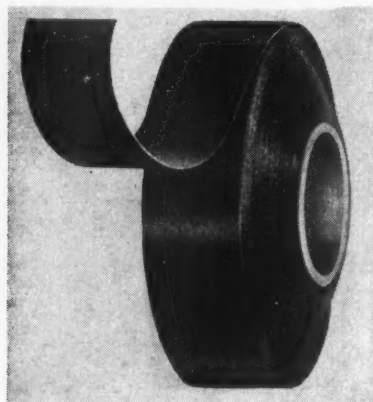




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31. Bonding Materials

World Bestos is featuring its 1951 brake lining bonding program, featuring newly developed Pyrobond film. With this product, brake bonds are claimed to be at-



tainable four times as strong as riveted linings in 15 minutes. Pyrobond is available with packaged sets of undrilled, unchamfered linings and World Bestos bond shim material for oversize requirements. The new program is designed to eliminate the necessity for heavy inventory and to assure fast stock turnover.

32. Exhaust Vent

Car-Mon Products Company is featuring its underfloor carbon monoxide ventilating equipment, consisting of a new floor-mounted, hard-ring flexible hose assembly of stainless steel; universal car or truck adapters; 1/4 in. thick boiler plate floor outlet assembly with hinged cover. The unit removes 100 cu. ft. of air per minute through the flexible tube attached to the car exhaust, but also takes 50 ft. of air per minute from under the car, assuring positive removal of all deadly carbon monoxide. The exhaust unit is quickly available, since the hose with its attached universal tailpipe adapter slides out when the hinged floorplate cover is lifted. As soon as

the hose is attached, the exhaust fan draws the gas from the car and discharges it outside the building. To prevent foreign material from rolling into the ducts to obstruct the flow of gas, the floor plates extend a full half inch above the floor. The edges are beveled smoothly to the floor level for safe footing.

33. Safety Brochure

The Oil-Dri Corporation of America has just released a three-color brochure giving safety information on places where oils, greases and fats-plus-water create slipping hazards or floor maintenance problems. The brochure also contains instructions on the application of Oil-Dri absorbents. This product is designed to keep floors clean, dry and safe for walking and, with repeated use, to draw out old, deeply embedded grease deposits from wood and cement floors.

34. Regulator Tester

C. E. Niehoff & Company is marketing the Model T-14 voltage regulator tester for 6 and 12 volt systems. A voltmeter and ammeter, combination mounted in a metal case, provide equipment useful for

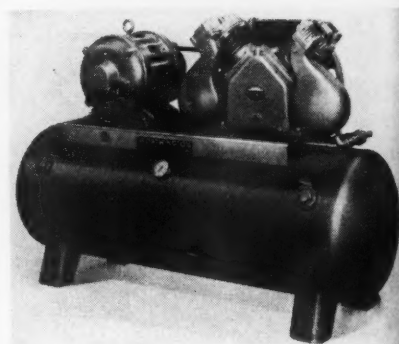


measuring voltage drop in circuits, checking voltage at different

points in the car system, measurement of generator output, and checking current draw in the car system. The tester contains a resistance unit to enable proper testing of battery regulators regardless of state of battery charge. Range of the ammeter is from 0-60 amp. D.C. The voltmeter scales 0-5 volts, 0-10 volts, and 0-25 volts D.C. The tester comes complete with necessary test leads and clips, attractive metal case with molded handle, 3 1/2 in. by 8 in. by 12 in.

35. Air Compressor

The Worthington Pump and Machinery Corp. is featuring its two-stage belted air compressor, which



has V-type construction with two cylinders and balanced pistons. Aluminum cylinder heads are said to give fast heat dissipation. A radiator type intercooler is said to provide maximum heat removal between stages with copper tubes and fins used for maximum heat conductivity. Other features of this compressor are short stroke, low piston speed for durability; splash lubrication; Timken main bearings for long life; a sight gage oil level which is said to be visible at all times; and a pulsation chamber for quiet operation.

36. Detergent

B. T. Babbitt, Inc., announces a liquid detergent for washing cars, known as Glim. According to the firm, Glim will not streak the surface and does not have to be wiped dry. A capful of Glim in a gallon of water is sufficient to wash the average car. The car is rinsed with clear water and allowed to air dry.

(Continued on page 58)

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HERE'S HOW TO GET

Free Information

HERE is a recap of the new products presented in Chilton's Motor Age ASIdeas at Work section, together with the key number for each product.

On the postcard, circle the numbers of the products which interest you and fill in your name and address. Then just tear out the card and drop it in the mail.

1. Lift Control

2. Brake Bonder

3. Inner Tube

4. Dial Gage

5. Honing Machine

6. Battery Charger

7. Drying Oven

8. Tire Cleaner

9. Battery

10. Piston Lathe

11. Pump Diaphragm

12. Tire Chains

13. Pin Fitter

14. Tripod Jack

15. One End Lift

16. Spray Kit

17. Tire Chains

18. Electrical Tape

19. Impact Wrench

20. Hoist

21. Light Tester

22. Air Compressor

23. Cleaner Kit

24. Air Gun

25. Brake Sets

26. Hand Tools

27. Portable Tester

28. Special Jack

29. Office Machine

30. Shoe Tester

31. Bonding Materials

32. Exhaust Vent

33. Safety Brochure

34. Regulator Tester

35. Air Compressor

36. Detergent

37. Piston Ring Set

38. Chemical Cleaner

39. Ice Melter

40. Filter Demonstrator

41. Governor

42. Auto Shade

43. Heavy Duty Coil

44. Car Washer
45. Battery Charger

46. Parts Line

47. Tool Catalog

48. Brake Lining

49. Oil Ring

50. Front End Parts

51. Anti-Freeze

52. Washing Brush

53. Hydraulic Pump

54. Road Sander

55. Carburetor Kit

56. Stud Extractor

57. Cable Sets

58. Winter-Summer Tire

59. Searchlight

60. Name Plates

61. Self-Locking Pin

62. Hand Cleaner

63. Counter Display

64. Turn Signals

65. Air Compressor

66. Cleaner

67. Puller Set

68. Exhaust Neutralizer

69. Brake Border

70. Filter Cartridge

71. Gas Vaporizer

72. Portable Lift

73. Lining Sets
74. Impact Wrench

75. Steam Cleaner

76. Wiper Motor

77. Body Tools

78. Body Repair Kit

79. Battery Caps

80. Hardware Catalog

81. Brake Lock

82. Engine Heater

83. Display Light

84. Rear Axle Dollie

85. Pump Filters

86. Voltage Regulator

87. Fire Extinguisher

88. Gas Saver

89. Refinishing Line

90. Cash Register

91. Coil Tester

92. Generator Brush

93. Post Lift

94. Sun Visor

95. Paint Service

96. Oil Additive

97. Filter Lines

98. Pre-Paint Chemical

99. Screwdrivers

100. Door Lock Cover

101. Hose Shut-Off

102. Speed Nuts
103. Terminal Tool

104. Car Mats

105. Control System

106. Tow Guide

107. Low S. G. Battery

108. Cable Lock

109. Service Jack

110. Rust Remover

111. Truck Mirrors

112. Tool Display

113. Spray Lube

114. Spray Equipment

115. Tube Repair Outfit

116. Island Units

117. Transmission Tools

118. Filler Can

119. Gaskets

120. Brake Lining

121. Shock Absorber

122. Tire Remover

123. Battery Charger

124. Drawer Separator

125. Brake Bonder

126. Water Tubes

127. Generator Tool

128. Tandem Assembly

129. Filter Element

130. Oil Ring

131. Cork Gaskets

Frank P. Tighe, EDITOR
MOTOR AGE
Chestnut & 56th Sts., Philadelphia 39, Pa.

Please send me further information on the New Products, the code numbers of which I have circled below.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
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127	128	129	130	131									

Your NameYour Title

Your Company

Car DealersWholesalersIndependent

Address(STREET & NO.) (CITY) (ZONE) (STATE)



AS Ideas At Work . . .

37. Piston Ring Set

The Perfect Circle Corporation has developed a new piston ring, set known as the 2-in-1. The 2-in-1 chrome piston ring set has two expander springs enclosed, one for normal pressure and one for high pressure. By having an option of spring pressures, the mechanic can use the same set for rebored or slightly worn cylinders as he uses for badly worn engines or known oil pumpers. Both rails of the oil ring are solid chrome-plated, as is the top compression ring.

38. Chemical Cleaner

The Rust Master Chemical Company is producing Carb Master, a chemical for cleaning carburetors without dismantling. It can be used by pouring a thin stream through the venturi tube and then feeding the liquid into the carburetor fuel intake, using a squirt-type oil gun while the engine is running. Also, it can be added to the gasoline in the tank to assure a clean fuel line and a full flow of gas in the intake manifold. The manufacturer states that this product is also an excellent parts

cleaner. It can be obtained in a 5-gallon pail containing four gallons of Carb Master plus a dunking screen.

39. Ice Melter

The Heet Division of DeMert & Dougherty, Inc., is announcing "Ice Breaker," a product for de-icing frozen locks, doors and trunk lids, and removing windshield ice already formed. It also combats windshield re-icing. The product is supplied in a squirt-type can, and with each purchase an emergency dropper is given free. The emergency dropper can be secured to the outside of the car for instant use when the driver tries to enter his car and the lock is frozen. It contains ample "Ice Breaker" to de-ice two door locks.

40. Filter Demonstrator

DeLuxe Products Corporation has introduced the Sump Action Demonstrator to illustrate how oil performs in both the sump and the crankcase. These demonstrators will be used by DeLuxe jobbers and representatives to show the importance of the built-in cone in the DeLuxe Cartridge.

41. Governor

Hoof Products Company has developed the new Hoof Mechanical Governor for industrial engines, designed to provide accurate control, yet cover a broad operating range, with close regulation regardless of load conditions. Ball, roller and needle bearings, used throughout at all load and friction points, are designed to provide free-running operation, insure sensitive control and provide long life. Daily oiling is unnecessary. Housing, of fine grain cast iron, completely encloses mechanism and all shafts have oil seals. Filler plugs and screws are gasket fitted to prevent oil leakage.

42. Auto Shade

The Charles Peckat Mfg. Co. is marketing the Airform Custom all-metal Auto Shade and the Sky-Vu plastic auto shade. The Airform Custom Auto Shade is a one-piece all-steel exterior visor which is trimmed in stainless steel. It features a height adjustment for individual requirements and is said to be rigid and noiseless under all road conditions. The Sky-Vu is made of optically clear, heat-resistant plastic and available in green, blue or red.

43. Heavy Duty Coil

The Echlin Manufacturing Company has announced a new heavy duty coil for trucks and buses. The new coil Echlin states, has an extremely low current draw, yet produces high voltage without sacrificing heat output. The coil is oil-filled, waterproof, with an arc-resistant top and a die cast case. It is available for both 6 and 12 volt systems.

(Continued on page 140)

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Attention: Frank P. Tighe, Editor



Dealers Must be Ready for Quick Adjustments

Common sense, the fundamentals of good business, basic foresight, and wise long range planning are cornerstones for dealer operation in 1951



By Fred L. Haller

Pres., National Automobile Dealers Assn.

THE coming year, as most years have a habit of doing, will undoubtedly bring a full quota of problems to automobile dealers. Factors which the industry cannot control certainly accelerate this probability.

There is every reason to believe that our government's program of defense preparations will be carried on energetically during 1951. This program will have definite repercussions upon automobile retailing as well as upon production.

1950, on the whole a good year for the retail automobile business, saw wide variation in market conditions. In many areas and for most makes, the situation changed from the so-called sellers' market to a buyers' market and back again to a sellers' market when the Korea incident occurred, only to change again when the industry-crippling terms of Regulation W were imposed upon the car-purchasing public. From widespread "bootlegging" of new cars in some areas to distinct scarcity of cars to fill customers' orders in many others were scenes which flashed across the screen of 1950's retail automobile picture.

Dealers met these changing conditions, as they always have had to do, but in 1950 market changes were not as easy to meet as they were in the good old days.

Dealers today are faced with vastly increased overhead expenses. Huge investments have been made by dealers in larger establishments and improved facilities for increased and better service

(Continued on page 130)

Jobber Service in 1951

In peace or war, the automotive wholesaler is able to do the kind of job servicemen have learned to expect from them



by William J. Barron
Pres., Barron Motor Supply,
Cedar Rapids, Iowa



THE New Year dawned in 1950 on an automotive industry throughout which the consensus was "This year we will see a return to normalcy." New car dealers were somewhat ruefully preparing to kiss the seller's market goodbye . . . and back in the service departments, shop foremen were pondering methods of bettering service to keep old customers and start new ones coming in. Wholesalers were holding sales meetings—sales managers were "cracking the whip"—and the emphasis everywhere was on sales—not "order taking." There was business to be had, but it was going to go to firms with aggressive, hard working sales organizations. Jobber salesmen were carrying their catalogs and, in many cases, samples. Of course, we were reminding ourselves of the large car population—the great potentials—but John Q. Public was doing some shopping. No more just "taking what he could get"—from now on, brother, he was going to "get what he asked for!" February and March showed slight declines from the previous year, and many wholesalers were of the opinion that sales were going to be off fifteen to twenty per cent. Generally, wholesalers were working hard to get their inventories in a satisfactory condition.

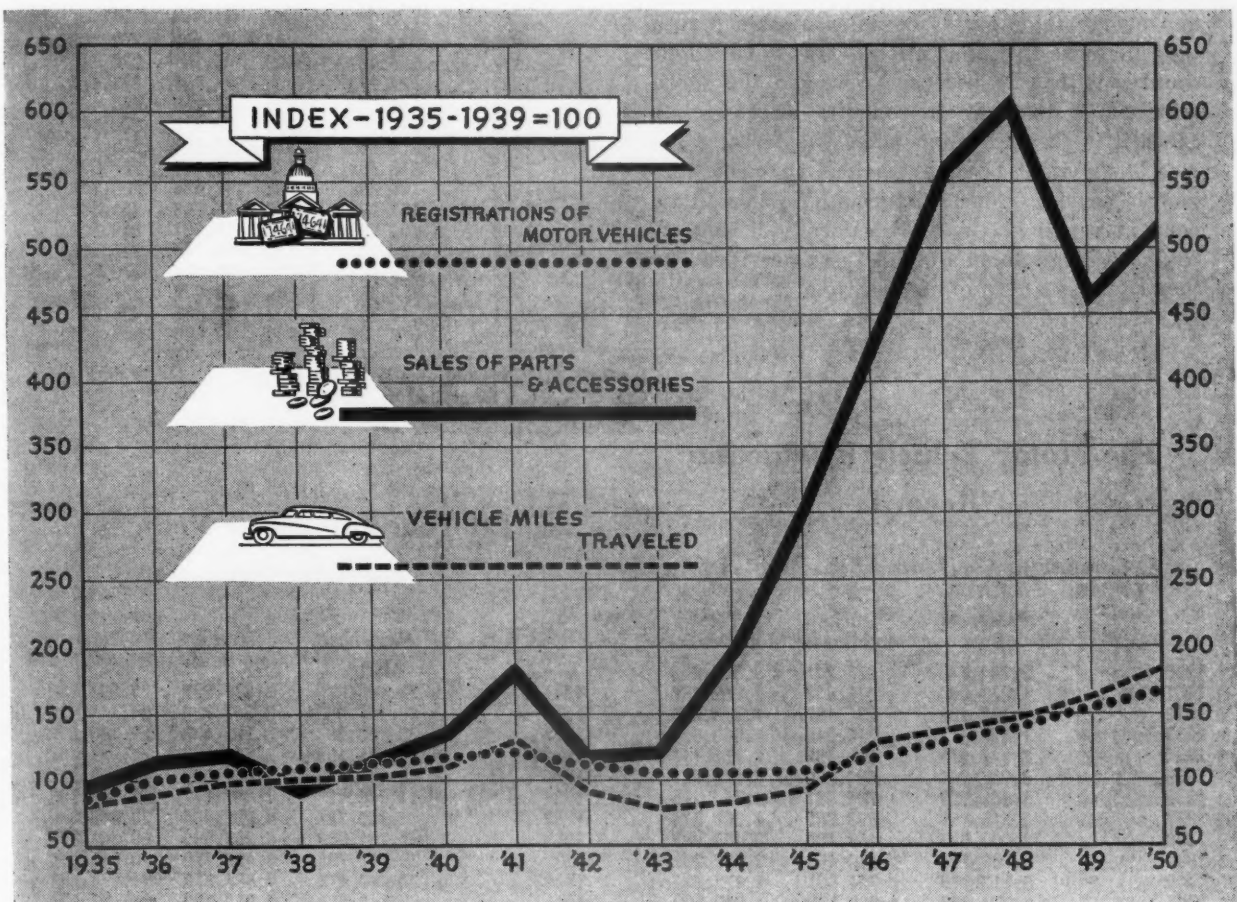
As summer's balmy weather invaded the Midwest, war clouds started to gather in the Far East. John Public, thinking back to the war years and the scarcities he had had to contend with, started a wave of "fear" buying. Tires were the first to feel the impact; then batteries and other items. The buying spree continued for several weeks, then slackened of its own accord as the U. N. forces in Korea took the offensive. The 38th parallel was crossed by U. N. troops, and stories of shortages started to appear. Then, the administration slapped a 35 per cent cutback on manufacturing use of aluminum, and again the wholesaler started to wonder . . . "Will steel be next?" . . . "How about rubber?" . . . "Will I be able to stay in business if my suppliers are forced to curtail production?" However, with all the talk about shortages, most wholesalers are finishing 1950 with substantial increases over 1949. Yes, despite the worry and the uncertainty, 1950 was a good year for the jobber.

Our crystal ball clouds up everytime we try to get a reading for predictions for 1951—so we will have to base our predictions on the premise that the present unstable world conditions will undergo no violent upheaval which will result in a total

(Continued on page 107)

Business Guide for 1951

by Charles M. Kenyon
and Marcus Ainsworth



PARTS and accessories sales still remain at the phenomenal heights of the post war period. Barring government interference, there is no reason to predict any great fall in the

year ahead. Car dealer, independent repair shop operator, wholesaler and manufacturer will have no serious trouble in marketing their wares in 1951.

Automotive Service Industry Continues

THIS January there are nearly 4½ million more trucks and passenger cars on the highways than last. Over 8 million vehicles were produced this year, a new record of course, and one which seems destined to stand for next year at least, for the government will hold production down by about 30 per cent if current plans are kept in effect. Following in the wake of the production boom, motor vehicle registrations also hit a new high, miles traveled rose to 465 billion, and every single state showed a sizable percentage increase in registrations. Delaware led the country with a 28 per cent rise, and the southeast, as a district, showed the most growth. Since it is cars traveling miles that creates service business, it becomes obvious that the automotive service industry, through jobbers, independent repair shops, and dealers, will continue to find a large volume of business provided that they can stay ahead of competition.

Total Vehicle Miles Traveled in U. S.*

(All figures shown in millions)

	Passenger Cars	Buses	Trucks	Total Miles
1936.....	208,654	2,367	41,107	252,128
1937.....	223,467	2,492	44,151	270,110
1938.....	224,174	2,508	44,495	271,177
1939.....	235,629	2,554	47,219	285,402
1940.....	249,559	2,657	49,927	302,143
1941.....	275,685	2,820	54,891	333,396
1942.....	218,239	3,130	45,727	267,096
1943.....	161,788	3,365	41,594	206,747
1944.....	167,073	3,799	41,708	211,580
1945.....	199,599	3,758	45,987	249,344
1946.....	280,457	4,052	56,146	340,655
1947.....	300,282	4,251	66,089	370,622
1948.....	319,459	4,283	73,847	397,589
1949.....	342,700	4,500	77,800	425,000
1950†.....	378,000	4,800	83,000	465,800

* Public Roads Administration.

† Estimated by Motor Age.

The Motor Vehicle Production Record

(Factory Sales from U. S. Plants)

	Passenger Cars	Trucks and Buses	Total Motor Vehicles
1930.....	2,784,745	571,241	3,355,986
1931.....	1,973,090	416,648	2,389,738
1932.....	1,135,491	235,187	1,370,678
1933.....	1,573,512	346,545	1,920,057
1934.....	2,177,919	575,192	2,753,111
1935.....	3,252,244	694,690	3,946,934
1936.....	3,669,528	784,587	4,454,115
1937.....	3,915,889	893,085	4,808,974
1938.....	2,000,985	488,100	2,489,085
1939.....	2,866,796	710,496	3,577,292
1940.....	3,717,385	754,901	4,472,286
1941.....	3,779,682	1,060,820	4,840,502
1942.....	222,862	818,662	1,041,524
1943.....	139	699,689	699,828
1944.....	610	737,524	738,134
1945.....	69,532	655,683	725,215
1946.....	2,148,699	940,851	3,089,550
1947.....	3,558,178	1,239,642	4,797,820
1948.....	3,909,270	1,376,155	5,285,425
1949.....	5,119,466	1,134,136	6,253,602
1950 (Est.).....	6,690,000	1,325,000	8,015,000

20 Years of Motor Vehicle Registrations

	Passenger Cars	Trucks and Buses	Total Motor Vehicles
1931.....	22,420,629	3,573,267	25,993,896
1932.....	20,994,092	3,347,730	24,341,822
1933.....	20,557,493	3,292,439	23,849,932
1934.....	21,535,199	3,346,268	24,881,467
1935.....	22,513,715	3,644,997	26,158,712
1936.....	24,044,432	4,047,277	28,091,709
1937.....	25,356,786	4,292,484	29,649,270
1938.....	25,264,589	4,283,395	29,547,984
1939.....	26,147,798	4,496,770	30,644,568
1940.....	27,240,475	4,683,376	31,923,851
1941.....	29,240,417	4,911,990	34,152,407
1942.....	27,683,529	4,741,298	32,424,827
1943.....	25,841,215	4,657,882	30,499,097
1944.....	25,298,639	4,611,966	29,910,605
1945.....	25,398,824	5,025,233	30,424,057
1946.....	27,834,543	5,858,813	33,693,356
1947.....	30,511,368	6,785,816	37,297,184
1948.....	33,009,515	7,468,712	40,478,227
1949.....	35,962,469	7,914,263	43,876,732
1950 (Est.).....	39,642,875	8,415,070	48,057,945

Rapid Growth

Business Guide for 1951



Forecast of 1950 Motor Vehicle Registrations

As of the End of the 1950 Registration Year

	Passenger Cars ⁽¹⁾		Trucks		Buses		Total Motor Vehicles		Per Cent Increase
	1950	1949	1950	1949	1950	1949	1950	1949	
Alabama.....	464,510	406,261	151,700	138,062	1,816	2,038	618,026	546,361	13.12
Arizona.....	196,185	180,869	56,000	52,978	680	945 ⁽¹⁾	252,865	234,792	8.00
Arkansas.....	310,860	281,253	130,000*	121,413*	3,235*	1,201*	444,095	403,867	9.96
California.....	3,738,300	3,404,861	612,800	559,369	(2)	6,911	4,351,100	3,971,141 ⁽⁴⁾	9.57
Colorado.....	418,900	383,140	134,700	124,709	(2)	(2)	553,600	507,849	9.01
Connecticut.....	593,920	539,765	85,500	77,716	3,100	2,770	682,520	620,251	10.04
Delaware.....	93,800	72,635	22,000	17,682	(2)	(2)	115,800	90,317	28.21
District of Columbia.....	162,000	151,787	18,700	18,389	2,000	2,113	182,700	172,289	6.04
Florida.....	802,000	698,382	176,500	165,307	3,500	3,785	982,000	867,474	13.20
Georgia.....	690,000	614,299	180,000	178,479	5,000	4,900	875,000	797,678	9.69
Idaho.....	192,275	174,058	70,500	64,137	(2)	14	262,775	238,209	10.31
Illinois.....	2,266,000	2,078,583	350,000	336,174	.....	.....	2,616,000	2,414,757	8.33
Indiana.....	1,187,000	1,090,153	245,000	206,154	8,000	7,653	1,440,000	1,303,960	10.43
Iowa.....	880,000	805,540	180,000	168,303	(2)	(2)	1,060,000	973,843	8.84
Kansas.....	650,500	618,965	203,800	195,449	(2)	(2)	854,300	814,414	4.90
Kentucky.....	591,000	527,717	173,500	154,941	(2)	(2)	764,500	682,658	11.99
Louisiana.....	553,850	469,526	146,000	140,001	3,600	3,576	703,450	613,103	14.74
Maine.....	203,175	186,771	63,000	59,894	400	417	266,575	247,082	7.89
Maryland.....	573,700	510,800	97,500	92,200	4,000	4,250	675,200	607,250	11.19
Massachusetts.....	1,095,000	1,010,185	165,500	153,208	5,385	5,822	1,265,885	1,169,215	8.27
Michigan.....	2,137,500	1,913,694	295,900	270,309	(2)	(2)	2,433,400	2,184,003	11.42
Minnesota.....	941,000	875,538	188,000	182,532	3,200	371	1,132,200	1,058,441	6.97
Mississippi.....	302,200	276,041	143,500	123,954	5,800	3,894	451,500	403,889	11.79
Missouri.....	1,013,000	943,839	257,000	237,458	5,000	4,650	1,275,000	1,185,947	7.51
Montana.....	185,000	163,991	79,000	76,478	(2)	(2)	264,000	240,467	9.79
Nebraska.....	450,600	420,896	123,300	119,473	615	856	574,515	541,225	6.15
Nevada.....	55,000	52,175	15,000	14,611	(3)	(3)	70,000	66,786	4.81
New Hampshire.....	132,500	125,803	32,000	36,214	(2)	(2)	164,500	162,017	1.53
New Jersey.....	1,329,800	1,208,787	211,300	199,920	5,760	10,689	1,546,860	1,419,396	8.98
New Mexico.....	168,000	146,149	58,000	52,564	1,000	1,015	227,000	199,728	13.6
New York.....	3,114,300	2,825,041	435,500	493,868	11,100	11,513	3,560,900	3,330,422	6.92
North Carolina.....	831,500	713,195	201,600	177,742	8,000	8,708	1,041,100	899,645	15.72
North Dakota.....	190,000	179,535	82,000	77,804	94	95	232,094	257,434	5.69
Ohio.....	2,400,000	2,184,806	335,000	304,801	4,000	11,008	2,739,000	2,500,615	9.53
Oklahoma.....	622,600	558,992	210,000	183,435	6,500	6,200	839,100	748,627	12.08
Oregon.....	560,800	496,326	136,800	123,897	1,570	1,192	699,170	621,415	12.51
Pennsylvania.....	2,544,900	2,344,192	475,000	452,867	12,200	12,338	3,032,100	2,809,397	7.93
Rhode Island.....	219,000	201,131	31,000	30,181	600	615	250,600	231,928	8.05
South Carolina.....	447,500	395,870	111,460	100,633	5,000	4,369	563,960	500,872	12.60
South Dakota.....	211,400	202,249	69,000	66,656	315	310	280,715	269,215	4.27
Tennessee.....	596,600	569,328	160,000	153,177	3,000	2,800	759,600	725,305	4.73
Texas.....	2,330,700	2,045,543	615,950	549,520	13,500	12,944	2,960,150	2,608,007	13.50
Utah.....	198,500	177,167	46,500	42,308	425	629	245,425	220,104	11.50
Vermont.....	105,000	99,332	15,400	15,023	165	171	120,565	114,526	5.27
Virginia.....	754,100	671,232	168,500	153,616	5,000	4,878	927,600	829,726	11.80
Washington.....	751,800	679,149	155,000	152,980	6,400	6,280	913,200	838,409	8.92
West Virginia.....	351,400	296,537	100,000	96,831	1,300	1,235	452,700	394,603	14.72
Wisconsin.....	936,000	895,175	219,800	210,069	2,600	2,265	1,158,400	1,107,509	4.60
Wyoming.....	99,200	95,206	37,000	35,358	.....	.....	136,200	130,564	4.32
Total.....	39,642,875	35,962,469	8,271,210	7,758,842	143,860	155,421	48,057,945	43,876,732	9.53

(1) Includes taxicabs.

(2) Included with trucks.

(3) Included with passenger cars.

(4) Does not include 122,461 passenger cars and 7,589 trucks originally registered in other states.

*—Due to change in registration period for trucks and buses, these figures represent registrations for six month period only.

Wholesale Value of Parts and Accessories

Automotive Wholesalers, Dealers and Repair Shops, by States*
With Number of Motor Vehicles per Outlet

STATE	Total Motor Vehicle Regis- trations	WHOLESALEERS		DEALERS		INDEPENDENT REPAIR SHOPS		ALL RETAIL OUTLETS	
		Number of Whole- salers	Motor Vehicles per Whole- saler	Car and Truck Dealers	Motor Vehicles per Car and Truck Dealer	Inde- pendent Repair Shops	Motor Vehicles per Repair Shop	All Retail Outlets	Motor Vehicles per Retail Outlet
Alabama.....	618,026	139	4,446	499	1,239	415	1,489	914	676
Arizona.....	252,885	72	3,512	233	1,085	555	456	788	321
Arkansas.....	444,095	137	3,242	613	724	574	774	1,187	374
California.....	4,351,100	760	5,725	2,282	1,907	7,036	618	9,318	467
Colorado.....	553,600	111	4,987	539	1,027	864	641	1,403	394
Connecticut.....	682,520	118	5,784	561	1,217	920	742	1,481	461
Delaware.....	115,800	22	5,264	106	1,092	282	411	388	298
District of Columbia.....	182,700	24	7,612	85	2,149	225	812	310	589
Florida.....	982,000	175	5,611	656	1,497	926	1,060	1,582	621
Georgia.....	875,000	166	5,271	759	1,153	488	1,793	1,247	702
Idaho.....	262,775	70	3,754	423	621	532	494	955	275
Illinois.....	2,616,000	476	5,496	2,700	969	3,889	673	6,589	397
Indiana.....	1,440,000	241	5,975	1,442	999	2,031	709	3,473	415
Iowa.....	1,060,000	223	4,753	1,482	715	1,522	696	3,004	353
Kansas.....	854,300	165	5,178	1,065	802	1,156	739	2,221	385
Kentucky.....	764,500	143	5,346	766	998	536	1,426	1,302	587
Louisiana.....	703,450	120	5,862	516	1,363	524	1,342	1,040	676
Maine.....	266,575	57	4,677	387	689	569	468	956	279
Maryland.....	675,200	101	6,685	524	1,288	1,014	666	1,538	439
Massachusetts.....	1,265,885	226	5,601	1,117	1,133	1,705	742	2,822	448
Michigan.....	2,433,400	326	7,464	1,906	1,277	3,147	773	5,053	481
Minnesota.....	1,132,200	159	7,121	1,599	708	1,997	567	3,596	315
Mississippi.....	451,500	104	4,341	543	831	232	1,946	775	582
Missouri.....	1,275,000	269	4,740	1,202	1,061	1,484	859	2,686	475
Montana.....	264,000	62	4,258	471	560	427	618	898	294
Nebraska.....	574,515	123	4,671	743	773	902	637	1,645	349
Nevada.....	70,000	17	4,118	117	598	171	409	288	243
New Hampshire.....	164,500	28	5,875	240	685	328	501	568	290
New Jersey.....	1,546,860	213	7,262	1,131	1,368	2,903	533	4,034	383
New Mexico.....	227,000	65	3,492	296	767	484	469	780	291
New York.....	3,560,900	562	6,336	2,879	1,237	7,149	498	10,028	355
North Carolina.....	1,041,100	209	4,981	903	1,153	792	1,314	1,695	614
North Dakota.....	272,094	51	5,335	478	569	496	548	974	279
Ohio.....	2,739,000	467	5,865	2,224	1,231	2,975	921	5,199	527
Oklahoma.....	839,100	203	4,133	931	901	1,108	757	2,039	411
Oregon.....	699,170	141	4,959	550	1,271	1,305	536	1,855	377
Pennsylvania.....	3,032,100	524	5,786	3,115	973	5,687	532	8,812	344
Rhode Island.....	250,600	35	7,160	176	1,424	399	628	575	436
South Carolina.....	563,960	93	6,064	448	1,259	370	1,524	818	689
South Dakota.....	280,715	44	6,380	475	591	367	765	842	333
Tennessee.....	759,600	148	5,132	658	1,154	636	1,194	1,294	587
Texas.....	2,960,150	555	5,334	2,614	1,132	3,574	828	6,188	478
Utah.....	245,425	78	3,146	269	912	438	560	707	347
Vermont.....	120,565	22	5,480	205	588	265	455	470	256
Virginia.....	927,600	128	7,247	897	1,034	843	1,100	1,740	533
Washington.....	913,200	192	4,756	757	1,206	2,023	451	2,780	328
West Virginia.....	452,700	97	4,667	627	722	687	659	1,314	344
Wisconsin.....	1,158,400	191	6,065	1,571	737	1,350	858	2,921	396
Wyoming.....	136,200	35	3,891	256	532	189	721	445	306
Total.....	48,057,945	8,687	5,532	45,036	1,067	68,501	701	113,537	423

* Trade List Department—Chilton Company.

Business Guide for 1951

Up 20 Per Cent



Wholesale Value of Repair Parts and Accessories Production, 1933-1949

	Wholesale Value
1933.....	\$234,461,000
1934.....	304,642,000
1935.....	378,323,000
1936.....	448,527,000
1937.....	464,619,000
1938.....	348,068,000
1939.....	454,673,000
1940.....	553,004,000
1941.....	718,212,000
1942.....	471,957,000
1943.....	527,710,000
1944.....	816,724,000
1945.....	1,284,926,000
1946.....	1,752,918,000
1947.....	2,353,523,000
1948.....	2,552,872,000
1949.....	1,895,050,000
1950*	2,280,000,000

* Partly estimated.

The above data are based on Federal Excise tax collections. The excise tax does not apply on parts and accessories exported, so these values apply for domestic sales only. Prior to July 1, 1944, sales to U. S. government were not subject to the tax, but have been since that date.

THE wholesale value of parts and accessories jumped back from the decline of last year to pass the \$2 billion mark again. Although this ran contrary to the early predictions of some forecasters in the industry it surprised no one on the grass roots level. All year long there was apparent a firm market for the goods and services of the man who could repair cars. It showed short fluctuations but these were more often caused by the press of competition in the local area than by any change in direction of the great national movement. In satisfying the demands of the bigger automotive market mentioned three pages back, more goods naturally flowed across the counters. One hundred and twenty-four more jobbers entered the field to compete for the business, but there was a rise in the number of vehicles registered which left 5532 vehicles per jobber establishment in 1950 as against 5076 in 1949. Dealer outlets stayed about the same, an actual decline of 160 from the 45,197 establishments of 1949.

California, New York and Pennsylvania again led the nation in wholesale sales. And the country as a whole showed a gain of nearly 20 per cent in dollar volume of replacement parts and accessories sold wholesale.

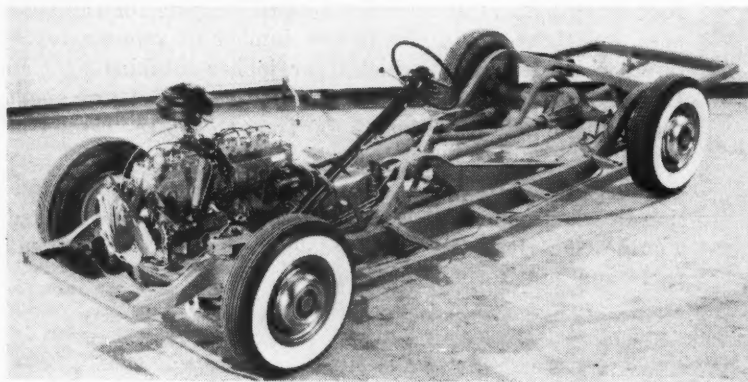
1950 Wholesale Sales of Replacement Parts and Accessories*

Alabama.....	\$29,320,800	Massachusetts.....	60,055,200	South Carolina.....	26,744,400
Arizona.....	11,992,800	Michigan.....	115,436,400	South Dakota.....	13,315,200
Arkansas.....	21,067,200	Minnesota.....	53,716,800	Tennessee.....	36,046,800
California.....	206,431,200	Mississippi.....	21,409,200	Texas.....	140,448,000
Colorado.....	26,265,600	Missouri.....	60,488,400	Utah.....	11,650,800
Connecticut.....	32,398,800	Montana.....	12,517,200	Vermont.....	5,722,800
Delaware.....	5,494,800	Nebraska.....	27,246,000	Virginia.....	44,004,000
District of Columbia.....	8,664,000	Nevada.....	3,328,800	Washington.....	43,320,000
Florida.....	46,580,400	New Hampshire.....	7,797,600	West Virginia.....	21,477,600
Georgia.....	41,518,800	New Jersey.....	73,393,200	Wisconsin.....	54,970,800
Idaho.....	12,471,600	New Mexico.....	10,761,600	Wyoming.....	6,452,400
Illinois.....	124,100,400	New York.....	168,970,800		
Indiana.....	68,308,800	North Carolina.....	49,384,800	Total.....	\$2,280,000,000
Iowa.....	50,296,800	North Dakota.....	12,904,800		
Kansas.....	40,538,400	Ohio.....	129,937,200		
Kentucky.....	56,274,800	Oklahoma.....	39,808,800		
Louisiana.....	33,379,200	Oregon.....	33,174,000		
Maine.....	12,654,000	Pennsylvania.....	143,845,200		
Maryland.....	32,034,000	Rhode Island.....	11,878,800		

* Estimated on basis of value of sales per motor vehicle times the motor vehicle registrations of each state.

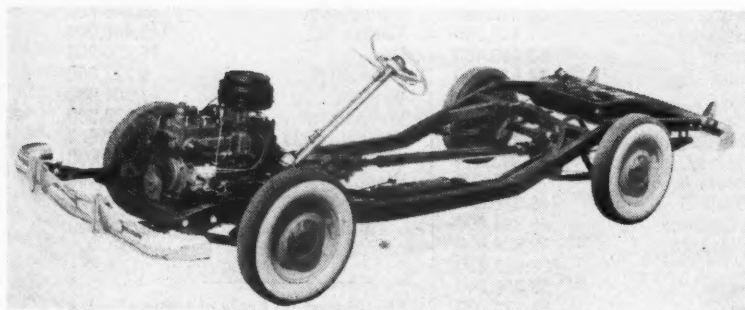
SERVICE Highlights

PACKARD



PACKARD has a complete new body. The width remains about the same but the length has been increased about five inches on the 200 Series and six inches on the 300 and 400 Series, and the overall height has been reduced about 2 inches. The 328 engine which is used in the 400 Series features a nine bearing crankshaft and a compression ratio of 7.8 to 1. The engine has two mounts at the front and only one at the rear.

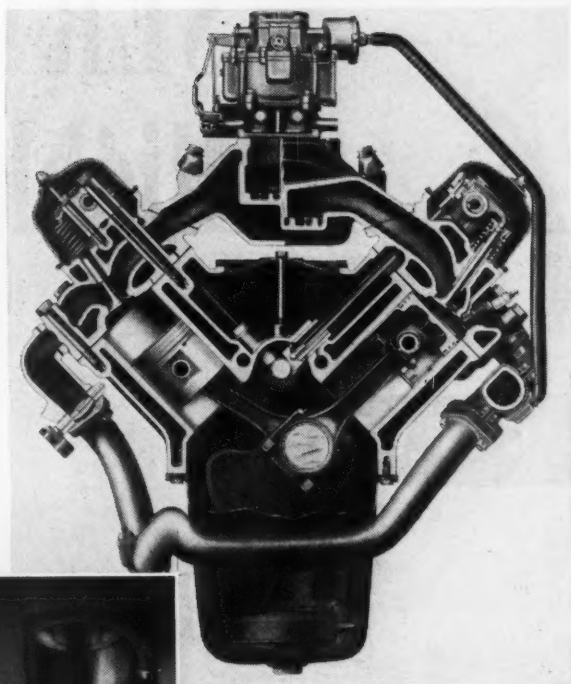
HENRY J



HENRY J. A complete new car made up of standard units which can be serviced with present tools and equipment. Has either a four or six cylinder engine built by Willys. The engines have positive crankcase ventilation through the air cleaner and into the intake manifold. The clutch is Borg and Beck; transmission, Warner; rear axle, Spicer; and brakes, Bendix.

STUDEBAKER has a new V-8 engine with overhead valves. It is available in the Commander and Land Cruiser models only. It develops 120

STUDEBAKER

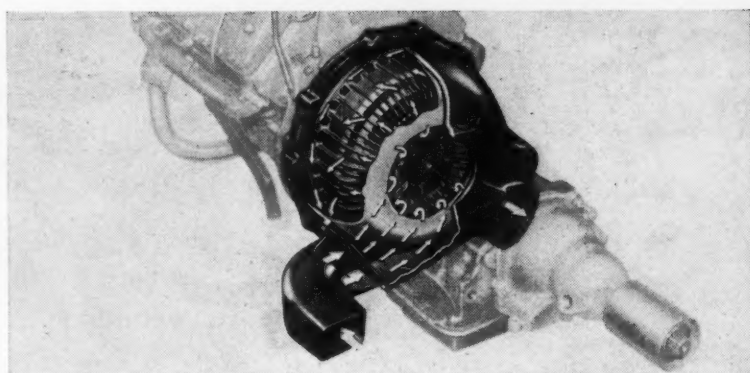


hp. and has a compression ratio of 7 to 1. Quietness is achieved through design, control of clearances and back-lash in the mechanism, in combination with cams of special form featuring an unusually long ramp. Bodies remain essentially the same but frames entirely new box section type.

FORD-MERCURY. The Ford and Mercury Automatic transmission is available as optional equipment. This unit is a torque converter with a three-speed gear box. The planetary gear assembly, which incorporates a gear set of the double pinion type, provides three forward ratios, two geared, one direct and one reverse ratio. The pump assembly consists of an aluminum cover, stamped steel blades, a retaining ring, a torus ring, and an iron hub. Valve rotators are now being used which will increase the valve life, considerably. Also the top compression rings are chrome flashed to increase the ring life. Water proof ignition has also been added. The mounting of the intake mani-

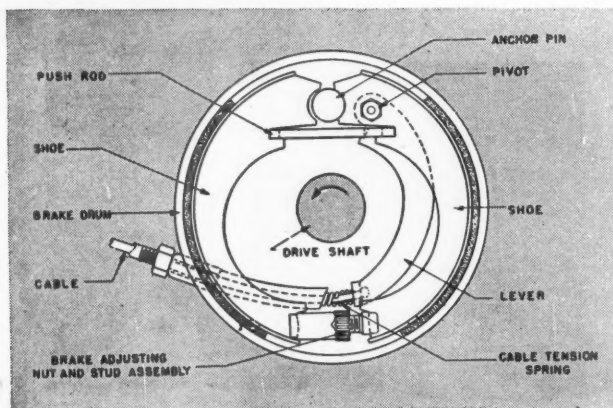


MERCURY

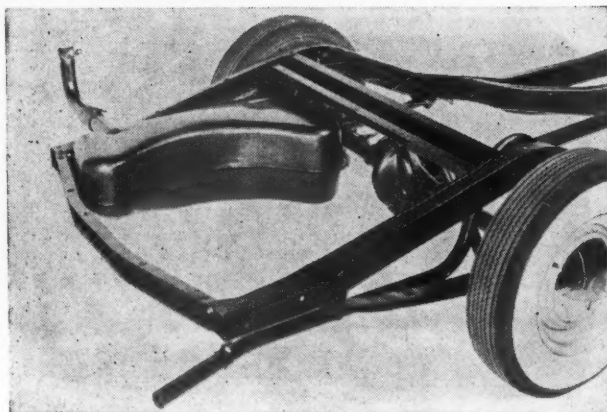


SERVICE Highlights

CHRYSLER



KAISER



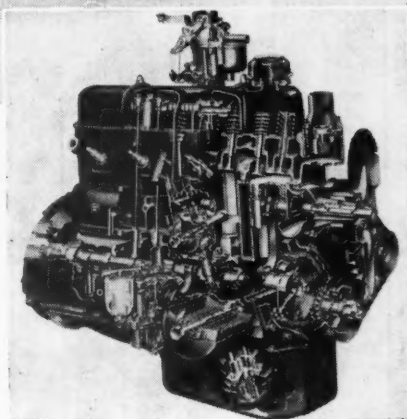
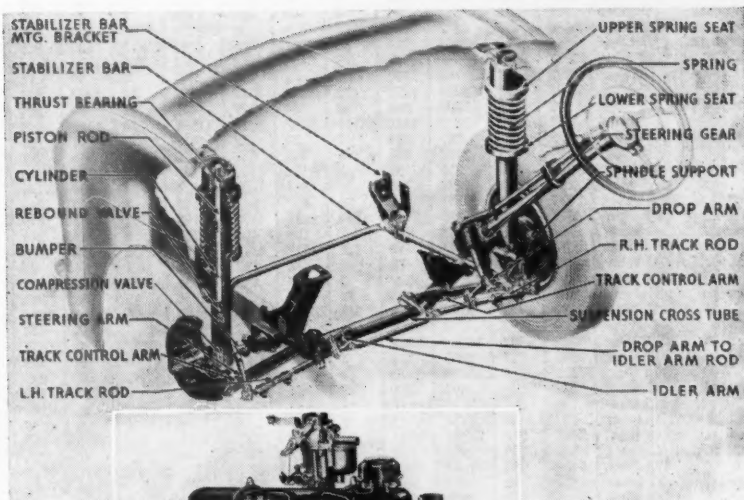
fold has been changed on the six cylinder engine. A re-designed camshaft and a three-bladed fan has been adopted.

CHRYSLER. A new internal expanding hand brake has been adopted to all Chrysler, Dodge, and DeSoto cars equipped with hydraulically operated transmissions. The braking effect has been made possible by the self-energizing action of both brake shoes. The brake shoe assembly is not connected to either the brake drum or the support plate, and it is prevented from rotating by the anchor pin. Two adjustments are provided for lining wear. The cable conduit is adjusted at the hand brake lever and the bands are adjusted by turning the brake adjusting nut on inside of drum.

KAISER. Along with a complete new body, Kaiser features a new type gasoline tank, which gives more space in the trunk. Engine hp. has been increased from 112 to 115 and Hydramatic transmissions are available as optional equipment.

FORD introduced two new engines at the recent London Automobile Show. One being

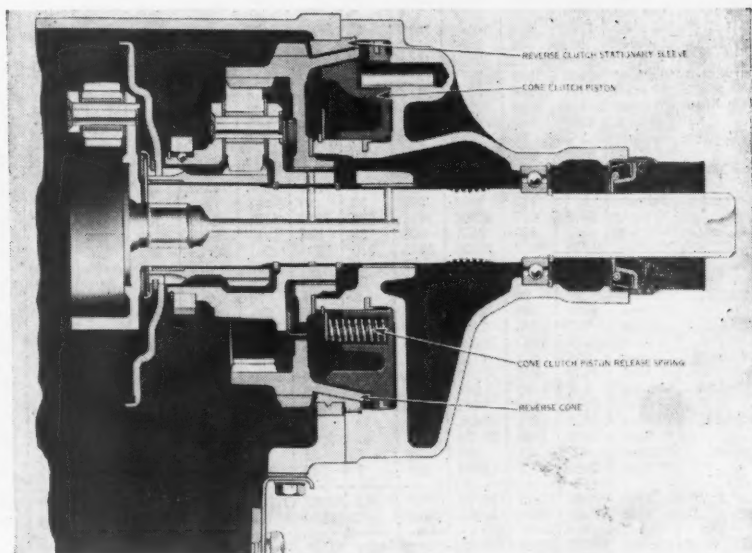
BRITISH FORD



a four and the other a six-cylinder with both having the valve-in-head square engine construction. Both engines are identical in design with quite a few of the parts being interchangeable. Bores are 3.125 by 3 in. strokes. With a compression ratio of 6.8 to 1, the output on the four is 47 hp. at 4400 rpms, and 68 hp. at 4000 rpms on the six. The camshaft is chain driven and the valves are push rod operated.

HYDRA-MATIC transmissions on Cadillac and Pontiac have a new cone-type reverse unit which permits shifting without hesitation, between forward and reverse. On Cadillac the brakes have been improved by replacing the brake shoe anchor pin with a wedge type anchor. The wedge automatically compensates for lining wear by keeping the shoes centered at all times. Engine refinements include improved balance between the crankshaft piston and connecting rod assemblies. Oil transfer from the crankshaft to the connecting rod has been improved, giving a more positive direction of oil to the piston pin and cylinder walls.

PONTIAC



New Car Registrations by Makes by States*

STATE AND MONTH	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Frazer	Hudson	Kaiser	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willis	All Others	Total	
Alabama.....	October 5'0	90	2373	159	4	73	312	1708	3	53	125	86	429	148	352	66	738	460	225	37	11	7,940	
10 Mos. 5338	663	17961	1006	72	660	2517	15107	97	837	609	441	4106	1499	3191	457	4762	4021	2923	385	38	68,680		
Arizona.....	October 182	43	448	80	5	33	110	575	1	24	65	10	161	75	120	38	205	142	87	15	10	2,430	
10 Mos. 2301	327	5482	519	30	289	907	4352	28	594	267	107	1062	595	1263	210	1443	1352	1444	143	53	22,728		
Arkansas.....	October 302	75	1502	99	4	107	300	1170	1	31	130	7	193	108	185	44	622	294	154	38	2	5,368	
10 Mos. 3'40	450	99'3	684	66	626	2002	8924	149	567	708	166	1750	1027	1805	356	3796	2574	1685	417	24	40,629		
California.....	October 3228	1373	8497	1614	35	1065	1903	8746	8	523	952	194	1997	1609	2445	553	4307	2732	1148	137	424	43,496	
10 Mos. 37677	9690	95049	12224	338	8783	16776	77168	590	11685	5164	2615	22952	14508	26377	4138	30985	29515	25943	1695	3116	439,960		
Colorado.....	October 408	95	1143	180	18	71	248	947	4	56	75	28	236	160	215	83	484	268	106	22	1	4,891	
10 Mos. 4693	691	10235	1327	132	734	2432	8733	90	2007	448	363	2733	2287	2671	610	3814	3284	1822	314	13	49,387		
Connecticut.....	October 620	176	1702	295	18	194	527	1442	1	39	206	43	436	221	471	159	1047	527	250	52	76	8,606	
10 Mos. 6458	1522	155'0	1865	109	1257	3642	11598	138	1375	1046	403	3975	2029	4778	1107	5922	5222	3431	610	515	72,510		
Delaware.....	October 128	27	367	34	2	23	79	419	.....	7	61	9	70	31	94	20	152	110	77	8	9	1,772
10 Mos. 1184	246	3459	221	20	187	557	2865	28	201	261	79	680	261	1034	158	945	1334	1007	77	38	14,940		
Dist. of Col.....	October 282	105	910	151	3	75	339	640	3	38	49	39	110	58	292	51	821	326	96	18	19	4,465	
10 Mos. 2230	611	6292	756	8	441	1598	4974	24	665	186	241	1403	626	2108	384	3321	2341	914	105	176	29,440		
Florida.....	October 679	185	2181	211	38	137	547	1825	1	70	241	95	616	193	392	124	1216	587	207	107	149	9,790	
10 Mos. 8617	1762	21380	2192	573	1212	4700	18196	113	1965	1019	947	7142	2434	5043	1136	7821	6557	3980	1208	971	98,970		
Georgia.....	October 714	140	2337	173	8	128	404	1787	2	49	218	54	441	109	410	93	768	550	161	28	28	8,812	
10 Mos. 9095	1321	25467	1643	120	1167	4373	20678	138	1459	1012	760	6229	1588	5279	940	7938	7126	3847	511	187	100,770		
Idaho.....	October 182	41	548	70	3	46	137	433	1	86	14	121	85	103	24	253	162	149	22	2	2	2,533	
10 Mos. 2190	331	5092	520	9	384	896	3864	49	688	345	148	1108	829	1314	245	1731	1645	1621	255	61	23,498		
Illinois.....	October 2927	882	6652	1069	21	824	1980	6335	19	525	923	149	1892	894	1989	464	4992	2277	1197	120	22	35,753	
10 Mos. 30359	6171	70261	7766	248	5869	15839	59195	1008	12323	5976	1832	17227	11437	20944	4427	30855	23742	14957	1235	192	341,800		
Indiana.....	October 1290	271	4117	495	20	421	946	3557	4	165	506	74	624	597	876	240	2086	1144	557	81	6	17,937	
10 Mos. 11542	1903	34244	3053	155	2411	6472	27341	368	3882	2631	699	5588	5716	8140	1704	11893	10493	12354	853	90	151,501		
Iowa.....	October 693	162	2617	334	5	204	627	2380	6	60	300	36	485	322	450	126	1339	653	178	20	10	10,898	
10 Mos. 7910	1268	25488	2408	49	1576	6326	23329	289	1989	2045	433	5368	3448	5722	978	8897	7099	3894	288	22	107,785		
Kansas.....	October 652	138	2591	264	8	153	554	2 68	6	87	256	46	496	264	377	112	1013	595	240	24	2	10,940	
10 Mos. 6111	911	18679	1617	81	1098	3520	15788	242	1766	1228	398	4049	2693	3641	953	5962	5399	3011	236	12	77,531		
Kentucky.....	October 407	89	1731	175	7	104	337	1598	2	23	165	29	231	176	307	68	746	424	138	40	1	6,794	
10 Mos. 5034	718	17521	1371	68	870	2837	14866	113	1073	835	197	2131	1777	3722	633	5547	4459	2859	511	17	67,160		
Louisiana.....	October 342	103	2032	155	8	127	281	1493	.....	31	203	45	362	82	267	65	704	412	203	32	2	6,838
10 Mos. 5403	964	17595	1160	124	1038	2881	15710	120	928	1010	304	3635	1139	3497	568	5296	4551	4052	424	48	70,427		
Maine.....	October 151	43	483	63	7	48	154	482	1	14	50	10	108	52	112	40	286	141	75	11	3	2,334	
10 Mos. 1969	407	5805	593	57	456	1299	4473	97	648	494	140	1168	714	1491	284	2316	2009	1164	257	50	25,911		
Maryland.....	October 524	119	1962	274	7	167	408	1696	1	52	190	41	264	194	335	119	1290	544	271	41	18	8,517	
10 Mos. 5675	921	19402	1791	67	1223	3508	15508	112	1628	997	468	4267	1917	4317	1068	7219	5287	3276	371	135	79,137		
Mass.....	October 1188	305	3159	545	19	411	994	2899	7	105	333	72	756	439	1114	195	2176	986	497	77	17	66,344	
10 Mos. 11792	2478	27736	3558	209	3000	7329	24933	221	3248	1815	739	6851	4638	11133	1478	13487	10811	7508	967	622	144,553		
Michigan.....	October 2628	843	10272	947	14	632	1692	9061	6	268	1499	165	1542	806	2445	2613	3798	2915	495	81	22	40,419	
10 Mos. 26862	6685	92369	6420	147	6147	14027	81059	781	7730	7274	1839	17290	7425	21459	2613	26227	28516	9880	932	180	387,442		
Minnesota.....	October 928	183	2531	416	1	267	714	2768	16	169	404	58	613	339	557	210	1496	845	331	40	25	12,937	
10 Mos. 11063	1428	26733	3131	46	2195	7123	26403	616	3682	3172	853	5969	4452	7164	1952	11246	8911	6743	398	165	134,088		
Mississippi.....	October 303	59	1056	107	4	81	219	1015	2	14	63	29	235	45	174	21	508	287	145	16	1	4,488	
10 Mos. 3625	549	10728	779	53	528	1608	9595	46	383	408	213	1991	731	1859	263	3703	2835	1843	221	12	42,272		
Missouri.....	October 1785	468	6866	681	27	572	1337	5670	20	231	476	125	1417	877	1255	217	3974	1684	824	136	12	28,834	
10 Mos. 10562	1899	37421	2859	96	2435	5917	30286	254	1985	1614	688	7959	5688	7218	1489	13860	9285	5298	713	69	147,945		
Montana.....	October 193	38	528	69	11	409	1167	4942	53	863	333	168	1200	691	1596	289	2049	1680	1535	231	20	26,599	
10 Mos. 2119	378	6409	572	11	409	1167	4942	53	863	333	168	1200	691	1596	289	2049	1680	1535	231	20	26,599		
Nebraska.....	October 426	105	1661	229	3	97	318	1336	1	40	134	31	318	127	241	76	719	414	138	20	3	6,437	
10 Mos. 4811	741	13948	1500	21	738	2447	12252	85	792	667	14	308	2874	1200	2844	582	4824	4190	2330	190	20	57,261	
Nevada.....	October 61	29	108	29	2	12	32	116	.....	168	4	8	29	18	19	17	69	26	12	5	.....	990
10 Mos. 867	221	1385	206	2	135	206	960	1	.....	168	4	8	29	18	19	17	69	26	12	5	.....	990
New Hamp.....	October 139	34	354	49	3	28	104	340	1	10	45	8	60	31	189	301	143	462	323	415	69	1	6,282
10 Mos. 1280	229	3714	352	25	229	856	3010	45	424	264	88	681	54	92	20	1291	103	53	21	7	1,721		
New Jersey.....	October 1421	362	3471	688	18	461	1211	3344	5	96	622	81	797	424	998	310	2258	1242	590	87	81	16,475	
10 Mos. 15333	3088	34816	4619	149	3055	9272	28251	332	4298	2703	1063	10539	4503	11265	2653	13945	14371	8007	1396	787	174,581		
New Mexico.....	October 193	25	396	51	5	35	115	371	.....	20	36	14	128	45	91	24	212	149	125	2	4	2,684
10 Mos. 2077	236	4060	442	73	246	763	3310	37	387	199	134	1389	496	911	233	1343	1319	1281	233	39	19	17,179	
New York.....	October 3895	1366	9423	1728	49	1644	3305	7251	28	274	1132	212	1965	1108	2682	800	5585	3044	1958	245	611	47,702	
10 Mos. 42645	10536	91366	12292	559	11348	26809	70792	1218	10902	7589	2541	22511	13254	33766	6631	38000	36334	18477	3509	4228	465	87,467	

(Advertisement)

ONCE AGAIN
AN AMAZING NEW STUDEBAKER
IS THE TALK OF THE WHOLE
AUTOMOBILE WORLD!

Studebaker's
sensational '51
V-8 Commander



THE EIGHT
AMERICA RATES AS GREAT!

Shop Kinks



\$25

**FOR THE BEST KINK
PUBLISHED
EACH MONTH**

\$5

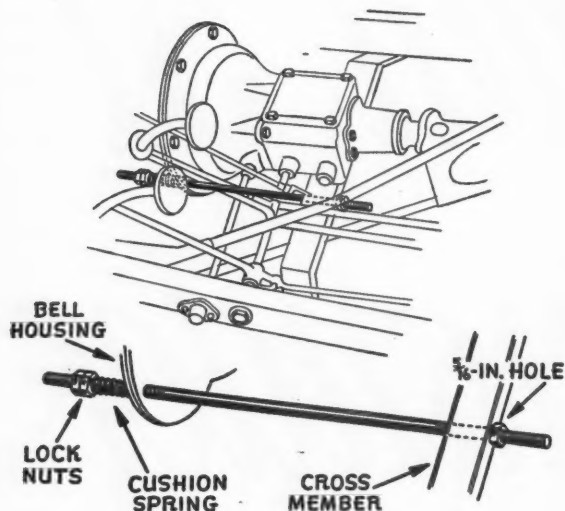
**FOR ALL KINKS
PUBLISHED
EACH MONTH**

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring five, possibly 25 dollars.

Best Kink of the Month

How to Correct Clutch Chatter

Here is an effective method of eliminating clutch chatter on late model Studebaker Champions. Take a 7 in. by 5/16 in. stud, with SAE threads on both ends and connect it between your bell housing and cross-member, using an old clutch disk spring as a cushion. Now remove the left side lower bolt from the bell housing and drill a 5/16 in. hole into the cross-member, so the stud will pass right through from the bell housing to the cross-member. Use lock nuts on both sides and on the bell housing install a heavy spring, the tension of which can be adjusted by nuts. *Francisco Liebermann, 729 Lake Drive, Baltimore, Md.*



Making a Special Wrench to Handle Ford Tractor Plugs

It is a hard job to remove or install the spark plugs in a Ford tractor, because the gas tank is so close to the spark plugs that there is no room for a regular spark plug socket. Take a regular half inch drive 3/16 socket and weld or braze 11/16 in. nut on top of the socket so that the spark plug sticks

through it. Then use a ratchet box end wrench. *Charley Roper, Roper's Garage, Rte. 1, Red Wing, Minn.*

Removing a Stubborn Rear Spring Tie Bolt

On a lot of rear springs where a tie bolt is clipped, I find the bolt is badly rusted in the housing. On stubborn jobs I drill and tap them with a 5/16-24 tap screw in a

5/16-24 bolt and this will bottom and press the broken head out. Then with the spring in place again, I clamp a piece of old 1/2 in. bolt or rod 1 1/2 in. long on a short leaf and again differential housing on both front and rear, and weld these slugs to spring leaf. This relieves the pressure on the tie bolts. *Roy T. Cross, McConnell, Illinois.*

(Continued on page 74)

Perfect Circle Doubles the Life

of cylinders and rings with the amazing new

2 in 1 Chrome Piston Ring Set!

Top Compression Ring Plated with Solid Chrome

New Chrome Oil Stopper

Steel rails plated with solid chrome. Alternate HiPressure spring packed with each Chrome Oil Stopper for use in badly worn engines.

It's True! Perfect Circle's new 2-in-1 Chrome Piston Ring Set is actually two sets in one! *First*, because solid chrome plating on the top compression ring and the steel rails of the oil ring assures twice the life of ordinary sets . . . *Second*, because two springs, of different pressure ratings, Normal Pressure and HiPressure, are packed with each Chrome Oil Stopper.

For the first time, mechanics can *choose* the spring pressure best suited for each engine without switching between various brands or types.

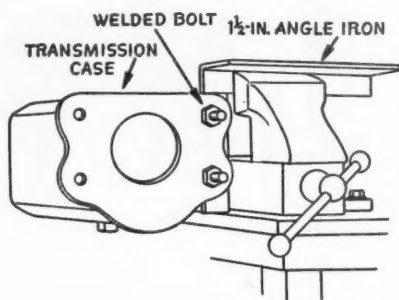
Whether cylinders are slightly or badly worn . . . tapered or straight . . . round or out-of-round . . . the 2-in-1 set establishes a new high of piston ring performance. Here at last is a piston ring set you can install with complete confidence . . . it will assure your customers of thousands of *extra miles* of top economy and sustained power.



A SURE BET IN ONE SET for Every Doctor of Motors

Angle Iron in a Vise Helps in Transmission Job

Here is a very handy tool which I have made for use in transmission work. The only parts needed



are two pieces of angle iron and a couple of bolts. The tool is mounted in a vise and then the transmission is lifted and bolted in place on this rig. It makes the job much easier to work on. *Arnold F. Hagemeister, 9621 60th Ave. So., Seattle 8, Wash.*

Using a Vacuum Gage For Adjusting Valves

I have a shop kink that I think will help in adjusting overhead valves. I use a vacuum gage attached to the intake manifold. First, normalize your engine and back off all your valves to where none are too tight. Your vacuum at sea level should be at 17 to 21 in. at a steady hand. Then, using specified feeler gage for that type engine, tighten adjusting screw until vacuum breaks. Then back off to highest vacuum. I find this as a quick and perfect way of not getting valves too tight. *A. C. Tunnell, P. O. Box 676, Elk Grove, California.*

Using Lift to Remove A Truck Transmission

Recently I had to remove the transmission on a late model Chevrolet 2-ton cab over engine job; this gear box is right under the seat. We have a two post lift. I drove the truck over the lift with a movable post under the transmission, and placed a 6 in. by 6 in. block 3 ft. long across the bars where the axle fits when using the

lift. On top of this I used a 2 in. by 8 in.—1 ft. long. I had the grease man raise the post and afterward I removed the bolts. He jacked the post back until the clutch shaft cleared and lowered the post and transmission. I did not lift a pound, just kept it balanced. We replaced it the same way and it was just about the easiest transmission I ever removed. It sure works swell and saves plenty of time. *Roy T. Cross, McConnell, Illinois.*

Wheel Balancer Eliminates Vibration in Hydra-Matic

We have had some complaints of a vibration in Hydra-Matic equipped Lincolns. This vibration is usually evident in speeds of from 30 to 50 mph. It can be noticed while driving, and also when the car is not in motion, by increasing the engine speed until the vibration appears. This vibration is due to an unbalanced condition of the fluid coupling.

This condition can be corrected by balancing the fluid coupling, using an electronic wheel balancer. It is necessary to remove the lower transmission housing, so that the torus member is exposed, then marking the torus cover clearly and evenly spaced with chalk so that these marks can easily be distinguished around the complete cover. With the car supported on a twin post hoist, have the front of the vehicle lower than the rear, so that the stroboscopic light can be directed on the exposed markings of the flywheel. The pickup unit of the wheel balancer must be mounted toward the rear of the transmission, preferably the extension shaft housing. With the car in neutral, start the engine by controlling the throttle from under the vehicle. Increase the speed slowly until the highest point of vibration is registered on the vibration meter of the machine. At this point, note which chalk mark on the torus cover is visible under the flashing stroboscopic light and then stop the engine. Rotate the flywheel until

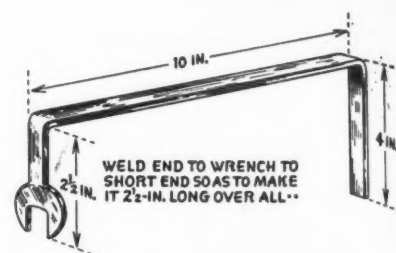
you are exactly opposite, or 180 degrees from the indicated mark, and insert plain flat washers under the torus cover cap screws. After this is completed, the procedure must be repeated until the vibration meter does not move and there is no longer any indicated vibration. This operation can be completed in approximately one hour, and is the only way we know of to mass balance this transmission unit. *Ray Koenig, Valley Lincoln Mercury, Inc., 26 10th St. N., Fargo, N. Dak.*

Chain Tightener Made From Inner Tube and Cross Links

I've been using this shop kink for years and thought it might be of some value to other MOTOR AGE readers. With every chain purchase, I install free of charge a hand made chain tightener that I make from a used cross chain and an old innertube. I cut the inner-tube in one inch strips, making bands when cut. I take the two end links of a cross chain and hook them on to a band. Twisting the band as I pull, I then connect the two links onto the car chain. *Tony Priolette, Tony's Garage, 24 Hamilton Street, Rear, Greensburg, Penna.*

Simple Wrench Helps in Carburetor Work

I have made a wrench to remove the carburetor on late model Chrysler products where the heater is under the hood. I use a piece of 1/4 in. stock 16 in. long and bend it as shown. To the short end I weld an



old broken 9/16 in. end wrench, with the handle cut off. This comes in very handy in removing the outside nut on carburetors near the heater where there isn't much room. *K. L. Trammell, Shurtleff Motor Company, Chanute, Kansas.*

Introducing the

all-new

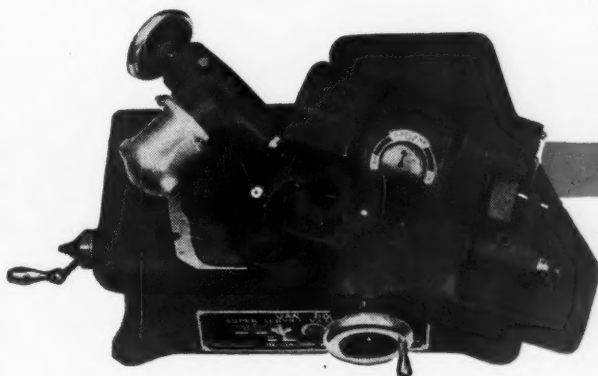
VAN DORN DELUXE Super-Service Valve Refacer

\$360.00 COMPLETE



all-new Completeness

Every necessary piece of equipment is on this **ALL-NEW** Van Dorn **VALVE REFACER** and in position to do a complete job—face grinding, stem grinding, tappet grinding, rocker arm grinding, even wheel dressing!



all-new Speed

No lost time or motion attaching and detaching separate pieces of equipment with this great new Van Dorn Refacer—**BECAUSE EVERYTHING IS ON THE MACHINE!** And its quick-clamp collet makes insertion and removal of valves a much faster operation than ever before.

SEE YOUR NEARBY VAN DORN DISTRIBUTOR for a thorough demonstration of the revolutionary new Valve Refacer. See its many advanced features. Learn how it will quickly pay for itself out of savings. No obligation, of course. Write for free catalog to: **THE VAN DORN ELECTRIC TOOL CO., 727 Joppa Road., Towson 4, Maryland.**

all-new Engineering

Revolutionary engineering advances make this machine the last word in Valve Refacers! Hypoid gears of finest design and construction drive the work head spindle. Two Van Dorn universal motors independently drive collet and wheel spindles. Bearing adjustment on feed screws has automatic end play take-up. Wet grinding at both valve and attachment wheels is controlled by single coolant valve on top of wheel head. Clean design is free from complicated adjustments and troublesome gadgets, tubes and wires!

all-new Versatility

Angular position of wheel head (shown here) permits *traverse* grinding of *any* angle valve face from 0° to 90°! Handles stem sizes from 9/32" to 11/16", head diameters up to 4".

all-new Smoothness

This sensational new Van Dorn Refacer gives you mirror-smooth finishes *every* time—eliminates chatter marks, time-wasting regrinding, costly scrapping! That's because of features like its two Van Dorn-built motors which deliver smooth, abundant power—hypoid gearing that insures very smooth spindle operation—and 4-point bearing suspension on both work and wheel tables for fast, smooth travel!

**For Power
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**Portable
Electric
TOOLS**

1950-51 PASSENGER CARS

Chassis and Engine Specifications

Line Number	PASSENGER CAR MAKE AND MODEL		Overall Dimensions (In.)			ENGINE			Line Number														
	Wheelbase (In.)	Tread (In.)		Length—Including Bumpers and Guard	Width	Height—Road to Roof No Load	Shipping Weight (Lb.) — Cheapest 5 Pass. 4 Door Sedan or Equivalent	Valve Arrangement		Number of Cylinders Bore and Stroke (In.)	Total Displacement (Cu. In.)	Taxable Horsepower	Max. Brake Hp. at Specified R.P.M.		Max. Torque (Lb. Ft.) at Specified R.P.M.		Standard Compression Ratio (to 1)	Compression Pressure (Lb.)		Weight per Cu. In.* 5 Pass. 4 Door Sedan	Weight per Hp. (Base Engine) 5 Pass. 4 Door Sedan	Hp. (Base Engine) per Cu. In. Disp.	BMEP (Lbs. per Sq. In.)
		Front	Rear										With Bare Engine	With Standard Accessories	With Bare Engine	With Standard Accessories		Pressure (Lb.)	Air RPM				
1 Buick.....	121½	8, 40	59½	62½	204	79½	63½	3715	7,60/15	—	8-3½x4½	248.1	30.6	115-3600	110-3600	209-2000	6.60	114	CS	16.99	36.65	.464	101.98
2 Buick.....	121½	8, 40	59½	62½	204	80	63½	3745	7,60/15	—	8-3½x4½	253.3	32.5	124-3600	119-3600	217-2000	6.90	118	CS	16.12	34.20	.471	103.61
3 Buick.....	126½	8, 70	59½	62½	208½	80	64½	4135	8,00/15	—	8-3½x4½	320.2	37.8	152-3600	134-3400	274-2000	7.20	120	CS	14.47	30.45	.475	104.43
4 Cadillac.....	122	V8, 61	59	63	211½	80½	62	3670	8,00/15	—	8-3½x3½	331.0	46.5	160-3600	141-3600	297-1800	7.50	120-140	CS	13.21	27.35	.494	106.34
5 Cadillac.....	126	V8, 82	59	63	215½	80½	62½	4010	8,00/15	—	8-3½x3½	331.0	46.5	160-3600	141-3600	312-1800	7.50	120-140	CS	13.62	26.20	.484	106.34
6 Cadillac.....	130	V8, 130	59	63	224½	80½	62½	4150	8,20/15	—	8-3½x3½	331.0	46.5	160-3600	141-3600	297-1800	7.50	120-140	CS	14.07	29.10	.484	106.34
7 Chevrolet, 1951.....	146½	V8, 75	59	63	236½	80½	64½	4150	8,20/15	—	8-3½x3½	331.0	46.5	160-3600	141-3600	297-1800	7.50	120-140	CS	14.07	29.10	.484	106.34
8 Chevrolet, 1951.....	146½	6, 114	58½	58½	197½	73½	65½	3130	6,70/15	—	6-3½x3½	216.5	29.4	92-3400	88-3300	179-(a)	6.70	110	125	16.75	39.45	.425	98.99
9 Chevrolet, 1951.....	115	6, 210A	58½	58½	197½	73½	65½	3300	6,70/15	—	6-3½x3½	235.5	30.4	105-3600	98-3500	193-(b)	6.70	110	125	16.75	39.45	.425	98.99
10 Chrysler.....	125½	6, C-48	58½	58½	207½	73½	65½	3810	7,60/15	L	6-3½x4½	250.6	28.4	116-3600	108-3600	208-1600	7.00	120-150	150	18.40	35.45	.463	101.84
11 Chrysler.....	131½	6, C-49	58½	58½	213½	73½	65½	4170	8,20/15	L	6-3½x4½	323.5	33.8	135-3200	116-3600	270-1600	7.25	120-150	150	14.48	34.60	.417	103.28
12 Chrysler.....	145½	8, C-50	58½	58½	230½	73½	65½	4190	4,90/12	L	4-2½x2½	44.0	10.0	32.5-3000	26.5-5400	27.0-1600	7.25	120-150	150	14.51	34.75	.417	103.28
13 Chrysler.....	145½	4, C-D, VC	58½	58½	230½	73½	65½	4190	4,90/12	L	4-2½x2½	44.0	10.0	32.5-3000	26.5-5400	27.0-1600	8.00	125-135	260	42.35	70.40	.602	88.33
14 DeSoto.....	125½	6, S-14	58	58½	207	74½	62½	3625	7,60/15	L	6-3½x4½	236.8	28.4	112-3600	103-3600	195-1200	7.00	120-150	150	17.00	35.95	.473	104.14
15 Dodge.....	123½	6, D-33	56	59	196½	73	62½	3200	6,70/15	L	6-3½x4½	230.2	25.4	103-3600	93-3600	190-1200	7.00	120-150	150	16.09	35.90	.447	98.44
16 Dodge.....	123½	6, D-34	56	59	202½	74½	62½	3395	7,10/15	L	6-3½x4½	230.2	25.4	103-3600	93-3600	190-1200	7.00	120-150	150	16.91	37.82	.447	98.44
17 Ford, 1951.....	114	6, 1HA	56	58	198½	72½	64½	3040	6,00/16	L	6-3½x4½	225.9	26.1	95-3600	88-3600	185-1500	6.80	110	120	15.89	37.30	.421	92.82
18 Frazer, 1951.....	123½	6, 1BA	56	58	198½	72½	64½	3060	6,00/16	L	6-3½x4½	225.9	26.1	100-3600	90-110	187-1600	6.80	110	60	14.95	35.05	.418	91.80
19 Frazer, 1951.....	123½	6, 515, 516	58	58½	211½	71½	60½	3535	7,10/15	L	6-3½x4½	226.2	26.3	115-3600	109-3600	190-1600	7.30	120	70	17.86	35.05	.508	110.30
20 Henry J, 1951.....	100	4, 513	54	54	174½	71½	60½	2300	5,90/15	L	4-3½x4½	134.2	15.6	68-4000	109-1800	109-1800	7.00	120	70	20.81	41.15	.508	100.33
21 Hudson, 1951.....	107	6, 514	54	54	174½	71½	60½	2325	5,90/15	L	4-3½x4½	181.0	23.4	80-3600	90-3600	133-1600	7.00	120	70	17.86	35.05	.489	103.66
22 Hudson, 1951.....	107	6, 4A	53½	53½	201½	71½	60½	2510	7,10/15	L	6-3½x3½	232.0	30.4	112-4000	103-3600	175-1600	6.70	120	70	17.86	35.05	.489	103.66
23 Hudson, 1951.....	123½	6, 6A, 6A	58½	58½	208½	77½	69½	3590	7,10/15	L	6-3½x4½	262.0	30.4	122-4000	200-1600	200-1600	7.00	120	70	15.61	33.22	.489	92.82
24 Hudson, 1951.....	123½	6, 7A	58½	58½	208½	77½	69½	3590	7,10/15	L	6-3½x4½	262.0	30.4	122-4000	200-1600	200-1600	7.00	120	70	15.61	33.22	.489	92.82
25 Hudson, 1951.....	123½	6, 8A	58½	58½	208½	77½	69½	3675	7,10/15	L	6-3½x4½	262.0	28.8	145-3600	237-1800	237-1800	7.20	119	125	16.45	32.62	.504	95.63
26 Kaiser, 1951.....	118½	6, 511, 512	58	58½	210½	74	62½	3150	6,70/15	L	6-3½x4½	226.2	26.3	115-3600	103-3600	190-1600	7.30	120	70	16.12	31.75	.508	110.30
27 Lincoln, 1951.....	121	V8, 1EL	58	58½	214½	76½	65½	4085	8,00/15	L	8-3½x4½	336.7	39.2	154-3600	144-3600	275-1800	7.00	110	110	13.60	29.73	.457	100.62
28 Lincoln, 1951.....	125	V8, 1EH	58½	60	222½	78½	64½	4430	8,20/15	L	8-3½x4½	336.7	39.2	154-3600	144-3600	275-1800	7.00	110	110	14.62	32.00	.457	100.62
29 Mercury, 1951.....	118	V8, 1GM	58½	60	206½	76½	63	3470	7,10/15	L	8-3½x4½	255.4	32.5	112-3600	103-3600	208-2000	6.80	115	115	15.56	35.43	.439	97.48
30 Nash, 1951.....	100	6, 5110	53½	59½	176	73½	59½	2430	5,90/15	L	6-3½x3½	172.6	23.4	82-3600	72-3600	138-1600	7.25	120	CS	17.00	35.78	.475	99.02
31 Nash, 1951.....	100	6, 5160	54½	59½	201	77½	63	2365	6,40/15	L	6-3½x4½	184.0	23.4	85-3600	80-3600	140-1600	7.00	130	CS	18.40	40.75	.462	96.28
32 Nash, 1951.....	112	6, 5160	54½	59½	211	77½	63½	3350	7,10/15	L	6-3½x4½	234.8	27.3	115-3600	103-3600	210-1600	7.30	130	CS	16.41	33.50	.469	114.09
33 Oldsmobile.....	119½	V8, 88	57	59	202	75½	64½	3515	7,60/15	L	8-3½x3½	303.7	45.0	135-3600	129-3600	255-1800	7.25	136	150	13.23	29.78	.445	97.79
34 Oldsmobile.....	122	V8, 98	59	61½	209	80	62½	3765	7,60/15	L	8-3½x3½	303.7	45.0	135-3600	129-3600	255-1800	7.25	136	150	14.08	31.53	.445	97.79
35 Packard, 1951.....	122	8, 200	59½	60½	209½	77½	62½	3660	7,60/15	L	8-3½x3½	288.0	39.2	135-3600	129-3600	230-2000	7.00	120	120	14.47	30.82	.489	103.12
36 Packard, 1951.....	122	8, 300	59½	60½	209½	77½	62½	3960	8,00/15	L	8-3½x4½	327.0	39.2	150-3600	135-3600	270-2000	7.00	120	120	14.47	29.88	.489	100.92
37 Packard, 1951.....	122	8, 400	61½	61½	217½	78½	62½	4180	8,00/15	L	8-3½x4½	327.0	39.2	150-3600	135-3600	270-2000	7.00	120	120	14.47	29.88	.489	100.92
38 Plymouth.....	111	6, P-19	55½	58½	186½	71½	61½	2946	6,40/15	L	6-3½x4½	217.8	25.4	97-3600	175-1200	175-1200	7.80	120-150	160	14.32	30.20	.474	104.28
39 Plymouth.....	118½	6, P-20	55½	58½	192½	73½	61½	3068	6,70/15	L	6-3½x4½	217.8	25.4	97-3600	175-1200	175-1200	7.80	120-150	160	15.86	35.58	.445	97.20
40 Pontiac, 1951.....	120	6, 1951-25	59½	59½	202½	75½	65½	3304	7,10/15	L	6-3½x4½	239.2	30.4	96-3400	90-3400	191-1200	6.50	127	200	16.41	39.62	.402	93.40
41 Pontiac, 1951.....	120	8, 1951-27	58½	59½	202½	75½	65½	3389	7,10/15	L	8-3½x3½	266.4	36.4	116-3600	106-3400	220-2000	6.50	127	200	15.91	39.62	.402	93.40
42 Studebaker, 1951.....	115	6, 10G	54	54	197½	70½	61½	2730	6,40/15	L	6-3½x4½	169.6	21.6	85-4000	75-4000	138-2400	7.00	120-140	150	19.08	38.00	.501	99.23
43 Studebaker, 1951.....	115	6, H	54	54	197½	70½	61½	3255	6,70/15	L	6-3½x3½	232.6	36.4	120-4000	100-4000	190-2000	7.00	120-140	150	19.08	31.26	.501	102.15
44 Willys, 1951.....	104	4, 473-SD	55½	57	176½	72	72½	2315	6,50/15	L	4-3½x3½	134.2	15.6	72-4000	65-4000	125-2000	6.90	135	185	24.70	46.01	.466	105.23
45 Willys, 1951.....	104	6, 673-SD	55½	57	176½	72	72½	2531	6,70/15	L	4-3½x3½	161.0	23.4	75-4000	65-4000	125-2000	6.90	145	145	20.65	41.40	.466	92.24

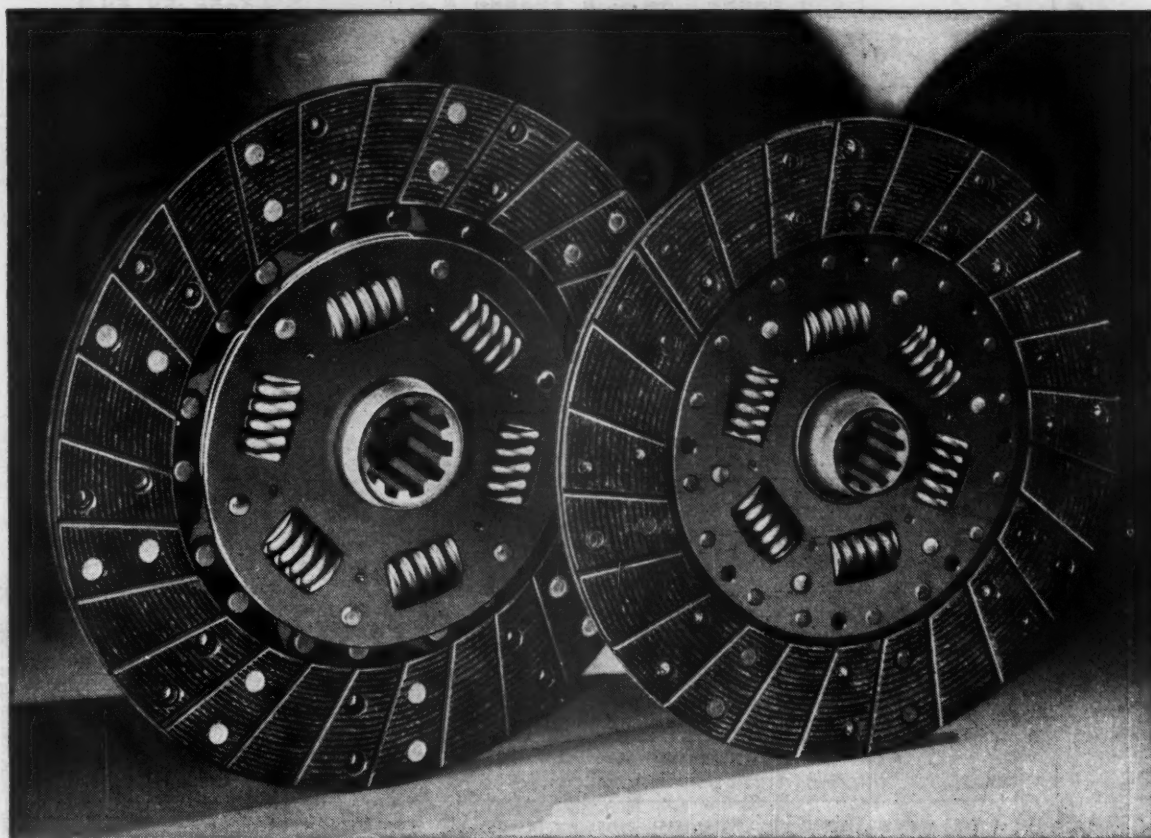
(c)—1200 to 1800 rpm
CS—Cranking speed
F—Valves in block and head
L—Valves in block

*—All weight calculations are based on shipping weight plus an allowance of 500 lb. for passengers, water, gasoline and oil

Model 6A—77½ in.
Convertible coupe
Based on hp with accessories
Station wagon

With load
C-40 Town & Country—front 57½ in., rear 63 in.
C-45 Town & Country—222½ in.

ABBREVIATIONS
Two door sedan
Land Cruiser—201½ in.



**You can stake
your reputation
on PERFECTION!**

Turn Chatter Into Praise and Profits with PERFECTION Clutch Plates

You can make more satisfied customers—and enjoy greater profits—by standardizing on Perfection "CF" Clutch Plates. These quality products have these outstanding features:

- (1) Patented formed and riveted cushioned springs eliminate chatter and grab.
- (2) Balanced coil spring center absorbs torsional vibration and transmission rattle.
- (3) Full-floating hub won't pull out.
- (4) Plate is completed with jointless and endless cord-woven facing, with standard BLMA drilling.

For details—consult your Perfection jobber, or write us.

PERFECTION GEAR COMPANY • HARVEY, ILLINOIS



Perfection Products Include: Silent Timing Gears • Metal Timing Gears • Silent Timing Chains • Sprocket Gears • Transmission Gears and Parts • Differential Ring Gears and Pinions • Differential Cases and Parts • Fly Wheel Gears • Clutch Plates • Pressure Plates • Clutch Cover Assembly Parts • Clutch Forks and Parts • Clutch Throwout Bearings • Clutch Rebuilders.

Chilton's MOTOR AGE, JANUARY, 1951

[illegible]

—Powerglide model available at extra cost

a)	Upper .1875 in., lower .1865 in.
b)	Upper .015 in., lower .0015 (segmented)
c)	Upper .140 in., lower .155 in.
d)	Upper .015 in., lower .0016 in. (segmented)
e)	Upper .147 in., lower .156 in.

CAMPBELL

Lug-Reinforced

CHAINS

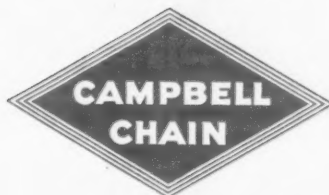
Sell on Sight!



PREPARE yourself for fall chain profits with an adequate stock of Campbell Tire Chains—the recognized quality leader. Campbell's patented saw-tooth construction assures long wear and safe stopping and starting traction.

Your Campbell jobber can help you set up a sales-producing display with Campbell's attractive boxes or bags and the new point-of-purchase display. Convenient wall chart with chain sizes and prices also available.

Sell Campbell chains—the chains that sell on sight because they are safer, longer-wearing, conveniently packaged.

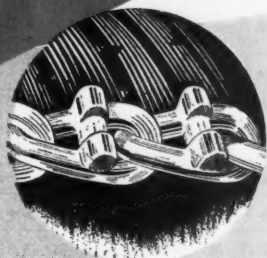


CAMPBELL CHAIN Company

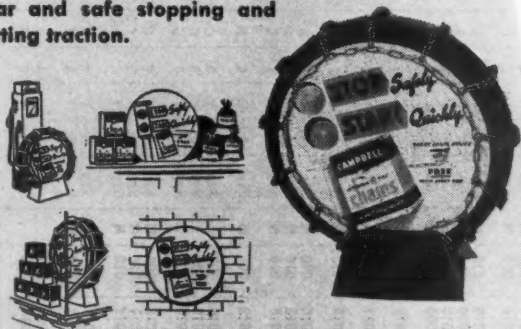
Main Office—York, Pa.

Factories—York, Pa. and West Burlington, Iowa

A Complete Line of Tire Chains for
Passenger Cars, Buses, Trucks and Tractors

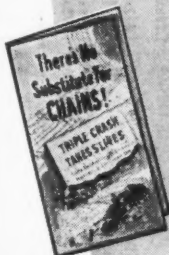


Only Campbell Tire Chains have the patented saw-tooth lug construction that assures long wear and safe stopping and starting traction.



Here's Campbell's eye-catching four-way "point-of-purchase" display—for use outdoors, in windows, on walls and counters.

Another sales aid—Campbell's new consumer booklet to help you develop chain prospects and close difficult sales. Write for your FREE sample copy now.



1950-51 PASSENGER CARS

Connecting Rods and Crankshaft Bearings

CONNECTING ROD BEARINGS										CRANKSHAFT BEARINGS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Lower Bearing										MAIN BEARINGS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Crankpin Journal		Type of Bearing		Type of Shim		Rods and Pins Removed from		Vibration Damper		Counterweights		End Thrust Taken by		Amount of End Play (In.)		Type		Removable from below		Material		Clearance (In.)		Type of Shim		Journal Diameter and Length																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Diameter and Length (In.)		Average Clearance (In.)		Average End Play (In.)		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of Bearing		Type of Shim		Type of 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ABBREVIATIONS

(a) D-33 no. D-34 yes
 (b) SAE 13 or equivalent
 (c) Front and center .0012 in., rear .0010 in.
 A—Aluminum
 B—Below
 Bab—Babbitt
 Bht—Bronze
 C—Center
 CL—Copper lead—steel backed
 Dab—Durex—steel backed
 Dur—Durex
 F—Front
 L—Left
 N—None
 No—No or none
 R—Rear
 RC—Rear center
 Sep—Separate
 Si—Silicon
 Y—Yes

Sealed Power HEAVY DUTY PISTONS

Built to outwear all other Pistons!

- ✓ Genuine Lo-Ex* Aluminum Alloy for longest service.
- ✓ T-Slot for uniform heat transfer.
- ✓ Cam-ground for greater bearing area.
- ✓ Rugged internal construction with extra metal where needed.
- ✓ Heat-treated for maximum resistance to extreme pressure and high temperatures.
- ✓ Available with Ebonited surface, GI-60 groove insert and pin fitted.

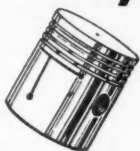
*Registered trade mark of Aluminum Co. of America

**For best results, re-power
with Sealed Power Pistons!**

Write for name of nearest distributor

**SEALED POWER CORPORATION
MUSKEGON, MICHIGAN**

Always use Sealed Power parts for best results

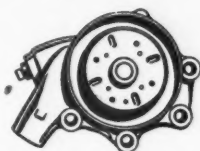


HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.



WET OR DRY SLEEVES—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

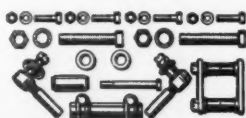
VALVES—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.



KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.



TIE RODS & SHACKLES—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.

Chilton's MOTOR AGE, JANUARY, 1951

ABBREVIATIONS

†—Outer valve spring only; inner spring 24 lb., 1.660 in. with valve closed; 52 lb., 1.320 in. with valve open;
20 lb., 1.650 in. out of engine
51 lb., 1.312 in. with valve open;
1.906 in. out of engine

●—Outer valve spring only; inner spring 24 lb., 1.660 in. with valve closed; 52 lb., 1.320 in. with valve open;
2.100 in. out of engine
†—Powderize model available at extra

(a)—XCR or 212N
(b)—Head 282120, stem 8729
(c)—Silichrome or nickel chrome steel
(d)—Head 2112, stem 8645
(e)—8654 or 3140
(f)—Head 2112, stem 3140
(g)—3140, 8645
(h)—Head XCR, stem 8645

GM—Chrome nickel steel
A-E—Aluminum Ind. or Eaton
A-E-R—Aluminum Ind., Eaton, or Rich.
A-E-T—Aluminum Ind., Eaton, or Toledo
A-R—Aluminum Ind. or Rich.
A—Autolite steel

R-T—Rich or Thompson
S—Silichrome steel
E—Eaton Mfg. Co.
E-R—Eaton or Rich.
N—Nichrome alloy
O-E—Oven or Eaton
V—Various
R—Rich Mfg. Co.

†—Outer valve spring only; inner spring
20 lb, 1.656 in. with valve closed;
51 lb, 1.312 in. with valve open;
1.906 in. out of engine

*—Outer valve spring only; inner spring 24 lb, 1.660 in. with valve closed; 52 lb, 1.320 in. with valve open; 2.100 in. out of engine
 *—Powderlode model available at extra cost
 (A)—XCR or 2112N

No faltering

**BAD WEATHER DRIVING COMFORT
WITH A CAPITAL ... SEE !**



▶ **Direct, electric drive with constant action regardless of engine load or speed.**

▶ **Synchronized operation of Dual arms and blades.**

▶ **Two speed operation. Tandem or opposed wiping motion.**

▶ **Fully automatic blade parking adjustable to suit installation.**

▶ **Bad weather power—30 inch/lbs. torque per blade.**

▶ **Thermal cutout protects wiper motor against overload.**

▶ **Arms up to 12" long. Blades up to 14". Wiping angle up to 118°.**

▶ **Available for 6 or 12 volt systems.**

AMERICAN BOSCH DUAL ELECTRIC WIPERS FOR TRUCKS & PASSENGER CARS

Safety and security . . . these are the big sales stimulants that make millions of passenger car and commercial vehicle owners ready to buy American Bosch DUAL ELECTRIC WINDSHIELD WIPERS! Regardless of engine speed or load, these powerful *direct* electric drive Dual Wipers *always* function with unfaltering, synchronized action. Because they operate *independent of engine*, there's no lag or stuttering of the wiper blades during acceleration to interrupt constant clear vision of the road ahead, even in the roughest weather. Ask your Jobber about Model WWB—designed for swift, simplified installation under cowl. Model WWA for vehicles requiring single Windshield Wipers with header mounting is also available. Both feature rugged, heavy-duty American Bosch construction assuring customer satisfaction for years of trouble-free operation. Write today for full information.



American Bosch

**MAGNETOS • GENERATORS • VOLTAGE REGULATORS • IGNITION COILS
ELECTRIC WINDSHIELD WIPERS • DIESEL FUEL INJECTION EQUIPMENT**

AMERICAN BOSCH CORPORATION • SPRINGFIELD 7 • MASS.

Chilton's MOTOR AGE, JANUARY, 1951

ABBREVIATIONS

— 2000 rpm
— Refill
— Powergrade model available at extra cost

AA—Automatic Adjustment
ABC—After bottom center
AC—AC Spark Plug Div.
AL—The Electric Auto-Lite Co.
AL—Aluminum alloy
ALC—Aluminum Co. of America
ATC—After top center

BB—Before bottom center
BTC—Before top center
C—Cold
CI—Cast iron
Co—Composition
Con—Continental Diamond Fibre Co.
F-P—Fram or Purolator
Fram—Fram Corp.

G—Gear
H—Hot
KS—King-Seely Corp.
L—Link
LB—Link Belt Co.
L-M—Link Belt or Morse
Mor—Morse Chain Co.
Me—Manganese steel

BBC—Before bottom center
BTC—Before top center
C—Cold
CI—Cast iron
Co—Composition
Con—Continental Diamond Fibre Co.
F-P—Fram or Purolator
Fram—Fram Corp.

G—Gear
H—Hot
KS—King-Seely Corp.
L—Link
LB—Link Belt Co.
L-M—Link Belt or Morse
Mor—Morse Chain Co.
Me—Manganese steel

N—No or none
O—Oscillating plunger
P—Pressure
PS—Pressure and splash
Pur—Purolator Products, Inc.
R—Rotor
Y—Yes

Sp—Splash
St—Steel
SW—Stewart Warner Corp.
TG—Timing gear
Var—Various
Web—Westinghouse Electric Corp.
Y—Yes

IT'S HERE...

WIXITE

(PATENT PENDING)

THE GREATEST FILTRANT DEVELOPMENT IN OIL FILTER HISTORY

- A WIXITE Cartridge contains countless tiny sludge traps which envelop all foreign particles in the oil, providing both depth and surface filtration.
- The sensational performance of WIXITE makes selling easier and more profitable for you.
- WIX Replacement Cartridges containing WIXITE are available through your local jobber... NOW.

WIXITE is new... utterly new. Backed by years of research, cutting clean through old concepts of filtering efficiency, WIXITE opens an entirely new era in oil filtration. You will find spectacular performance in WIXITE... GREATER SLUDGE AND DIRT REMOVAL... GREATER RATE OF FLOW... GREATER MILEAGE. And when we say GREATER, we mean DOUBLE the results motorists are now getting.

From the beginning of automotive oil filtration, cotton threads have been the most widely accepted and endorsed filtering medium. WIX has now improved upon the performance of cotton threads by blending a material which ALLOWS THE UTILIZATION OF THE ENTIRE THREAD CONTENT. This amazing new medium - WIXITE - properly blended and carefully packed by WIX, insures users of more than double the life expectancy formerly offered with ANY filtering medium.

WIXITE makes oil filter dollars go farther... makes sales and profits roll in faster, because your customers, noting the superior performance of WIXITE, naturally will demand it. WIXITE Replacement Cartridges are available for Passenger Cars, Trucks, Buses, Tractors and Stationary Engines. Write for the full story today.

wix
TRADE MARK REG.
ENGINEERED FILTRATION

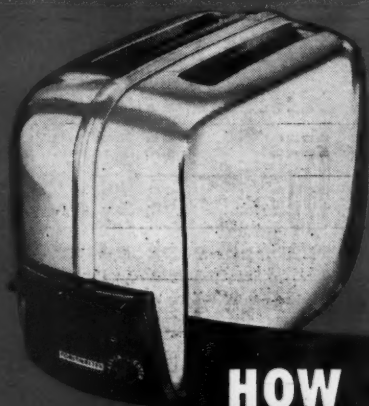
WIX ACCESSORIES CORP'N. • GASTONIA, N. C.

CANADIAN FACTORY: WIX ACCESSORIES CORP. LTD., 11 Wabash Ave., Toronto 3, Ont.



Fuel and Cooling Systems

FUEL SYSTEM										COOLING SYSTEM										FAN BELT					Line Number						
Line Number	PASSENGER CAR MAKE AND MODEL	Tank Capacity (Gal.)	Feed		Carburetor			Manifold Heat Control	Automatic Choke—Make	Air Cleaner—Make	Muffler—Make	Water Pump			Thermostat—Make	Pressure Relief Valve	By-pass for Recirculation	Radiator Core		Capacity of System (Qts.)	Full Length Water Jacket	Water All Around Cylinder	Lower Hose		Upper Hose		Make	Angle of Vee (Deg.)	Length Outside (In.)	Width Max. (In.)	Fan Make
			Type	Make	Model No.	Size (In.)	Type					Type	Drive	Packing Nut				Type	Core				Length (In.)	Inside Diameter (In.)	Length (In.)	Inside Diameter (In.)					
1	Buick	8.40	CP	AC	(a)	DD	A	S-C	AC	W-H	VB	Ce	Har	Y	Y	VC	13	N	Y	1½	ET	1½	ET	Var	.....	.....	750	H	1
2	Buick	8.50	CP	AC	(b)	DD	A	S-C	AC	W-H	VB	Ce	Har	Y	Y	VC	13	N	Y	1½	ET	1½	ET	Var	.....	.....	750	H	2
3	Buick	8.70	CP	AC	(b)	DD	A	S-C	AC	W-H	VB	Ce	Har	Y	Y	VC	13	N	Y	1½	ET	1½	ET	Var	.....	.....	750	H	3
4	Cadillac	61, 62, 60, 75	CP	.....	Car	DD	A	Car	AC	W	VB	Ce	Har	Y	Y	VC	18	Y	Y	1½	8½	1½	8½	G-G	40	57	300	H	4	
5	Chevrolet	6, JJ, JK	CP	AC	7003182	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	RC	15	Y	Y	1½	16½	1½	16½	Var	32	42½	688	Own	5		
6	Chevrolet	6, 21004	CP	AC	7003180	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	RC	15	Y	Y	1½	16½	1½	16½	Var	32	42½	688	Own	6		
7	Chrysler	6, C-48	CP	AC	EX-3	SD	A	Sle	AC	Var	VB	Ce	Har	Y	Y	C	17	Y	Y	1½	ET	1½	ET	Var	40	48½	750	Own	7		
8	Crosley	6, C-49, C-50	CP	AC	ET-J4	SD	A	Sle	AC	Own	VB	Ce	Har	Y	Y	T	4	Y	Y	1½	4½	1½	4½	Ga	34	48½	750	Own	8		
9	Crosley	4, CD, VC	CP	AC	DY-9C	SD	A	N	US	Own	VB	Ce	Har	Y	Y	T	4	Y	Y	1½	17	1½	17	Var	34	48½	719	Own	9		
10	DeSoto	6, S-14	CP	.....	Car	SD	A	Sle	AC	.....	VB	Ce	Har	Y	Y	C	17	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	10
11	Dodge	6, D-33, D-34	CP	.....	Str	SD	A	Sle	AC	.....	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	11
12	Ford	6, 1HA	CP	.....	Hol	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	12
13	Ford	6, 1BA	CP	.....	Hol	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	13
14	Ford	6, 515, 516	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	14
15	Henry J	6, 513	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	15
16	Hudson	6, 514	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	16
17	Hudson	6, 514	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	17
18	Hudson	6, 5A, 6A	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	18
19	Hudson	6, 7A	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	19
20	Hudson	6, 8A	CP	.....	Car	SD	A	N	AC	Var	VB	Ce	Har	Y	Y	C	15	Y	Y	1½	ET	1½	ET	Var	40	48½	750	.....	20
21	Kaiser	6, 511, 512	CP	.....	Car	DD	A	Car	AC	Mac	VB	Ce	Har	Y	Y	C	13½	Y	Y	1½	ET	1½	ET	Gy	36	41	375	H	21	
22	Lincoln	6, 1EL	CP	.....	Hol	DD	A	Hol	Var	.....	VB	Ce	Har	Y	Y	C	13½	Y	Y	1½	ET	1½	ET	Var	38	42½	370	H	22
23	Lincoln	6, 1EL	CP	.....	Hol	DD	A	Hol	Var	.....	VB	Ce	Har	Y	Y	C	13½	Y	Y	1½	ET	1½	ET	Var	38	42½	370	H	23
24	Mercury	6, 1CM	CP	.....	Hol	DD	A	Hol	Var	.....	VB	Ce	Har	Y	Y	C	13½	Y	Y	1½	ET	1½	ET	Var	38	42½	370	H	24
25	Nash	6, 5110	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Gy	40	40½	406	Own	25	
26	Nash	6, 5140	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Gy	40	40½	406	Own	26	
27	Oldsmobile	6, 5160	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Gy	40	40½	406	Own	27	
28	Oldsmobile	6, 88	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Gy	40	40½	406	Own	28	
29	Oldsmobile	6, 88	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Gy	40	40½	406	Own	29	
30	Packard	6, 8, 200	CP	.....	Car	DD	A	Car	AC	W-H	VB	Ce	Har	Y	Y	C	21½	Y	Y	1½	14½	1½	14½	Var	36	39	375	H	30	
31	Packard	6, 8, 300, 400	CP	.....	Car	DD	A	Car	AC	W-H	VB	Ce	Har	Y	Y	C	21½	Y	Y	1½	14½	1½	14½	Var	36	39	375	H	31	
32	Plymouth	6, P-19, P-20	CP	.....	Car	SD	A	Sle	Var	.....	VB	Ce	Har	Y	Y	C	16	Y	Y	1½	ET	1½	ET	Var	40	49½	750	.....	32
33	Pontiac	6, 1951-25	CP	.....	Roc	SD	A	Roc	AC	Var	VB	Ce	Har	Y	Y	C	16½	Y	Y	1½	17½	1½	17½	Var	34	41½	750	Own	33	
34	Pontiac	6, 1951-27	CP	.....	Car	DD	A	Car	AC	Var	VB	Ce	Har	Y	Y	C	16½	Y	Y	1½	17½	1½	17½	Var	34	41½	750	Own	34	
35	Studebaker	6, 10G	CP	.....	Car	SD	A	Car	AC	W	VB	Ce	Har	Y	Y	C	10	Y	Y	1½	ET	1½	ET	Var	34	41½	750	Own	35	
36	Studebaker	6, 10G	CP	.....	Str	DD	A	Str	AC	Var	VB	Ce	Har	Y	Y	C	10	Y	Y	1½	ET	1½	ET	Var	34	41½	750	Own	36	
37	Willlys	4, 4732-SD	CP	.....	Car	1½	SD	N	AC	W-H	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Var	40½	44	719	H	37	
38	Willlys	6, 673-SW	CP	.....	Zen	1½	SD	N	AC	W-H	VB	Ce	Har	Y	Y	C	11	Y	Y	1½	ET	1½	ET	Var	42	37½	688	H	38	



HOW TO INCREASE YOUR UNDERCOATING BUSINESS

50%

FENDIX MERCHANDISE AWARD PLAN STEPS UP UNDERCOATING SALES...

Sure, undercoating sales are profitable! That's why more and more dealers are switching to FENDIX. The new FENDIX award plan has salesmen and service managers really plugging undercoating to prospects... selling FENDIX undercoating with practically every new car sold. Just look at the advantages you get only with FENDIX. Then, call your nearby FENDIX jobber. Find out how you, too, can increase undercoating business up to 50% just by switching to FENDIX.

HERE'S HOW FENDIX HELPS YOU SELL UNDERCOATING:

- 1 Merchandise award plan encourages salesmen and service managers to plug undercoating.
- 2 FENDIX contains more solids per drum—undercoats more cars per drum.
- 3 FENDIX eliminates new car squeaks and rattles. Reduces free service time and labor.
- 4 FENDIXED cars have a higher re-sale value.
- 5 FENDIX gives you "In The Showroom" promotion to help you sell.

NOTE TO SERVICE MANAGERS:

Are you earning wonderful gifts like sporting goods, appliances, clothing? You can... just by using FENDIX. For the full story just ask your FENDIX distributor.



NOX-RUST CHEMICAL CORPORATION
2433 S. HALSTED STREET
CHICAGO 8, ILLINOIS
EASTERN DIVISION
301 DAVISON CHEMICAL BUILDING
BALTIMORE 1, MARYLAND



1950-51 PASSENGER CARS

Ignition Systems and Batteries

PASSENGER CAR MAKE AND MODEL		IGNITION										COIL		SPARK PLUGS				BATTERY																			
		Make	Model	Max. Automatic Advance (Eng. R.P.M. at)	Inches Mercury Required for Vacuum Advance (±1 in.)	Max. Vacuum Advance—Crankshaft (Deg.)	Breaker Point		Cam Angle (Deg.)	Spark Occurs (Deg.)	Timing		Amperage Draw	Make	Model	Thread Size	Gap (in.)	Ignition Cable Make	Make	Capacity—Amp. Hrs. at 20 Hr. Rate	Plates per Cell	Bench Charging Rate		Terminal Grounded	Location												
							Gap (in.)	Arm Tension (Oz.)			Markes On.	Firing Order										Engine Stopped	Engine Idling			Start (Amp.)	Finish (Amp.)										
Line Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Buick.....	8, 40	DR	1110815	26.0-3000	6.01	10-12	.015	19-23	•	48T	Fly	1,6,2,5,8,3,7,4	4.50	2.50	AC	48	14	.025	Pak	DR	100	15	4	4	•	Neg	UH	1									
Buick.....	8, 50	DR	1110815	26.0-3000	6.01	10-12	.015	19-23	•	48T	Fly	1,6,2,5,8,3,7,4	4.50	2.50	AC	48	14	.025	Pak	DR	120	17	4	4	•	Neg	UH	2									
Buick.....	8, 60	DR	1110815	26.0-3000	6.01	10-12	.015	19-23	•	48T	Fly	1,6,2,5,8,3,7,4	4.50	2.50	AC	48	14	.025	Pak	DR	120	17	4	4	•	Neg	UH	3									
Cadillac.....	V8, 61, 62, 60, 75	DR	1112362	32.0-3600	5.01	18-22	.016	19-23	31	58T	•	1,6,4,3,6,5,7,2	5.00	2.50	AC	46-6	14	.035	Pak	DR	115	17	10.0	8.0	•	Neg	UH	4									
Chevrolet, 1951.....	6, JJ, JK	DR	1112362	39.5-3450	7.0	20	.021	17-21	34	58T	Fly	1,5,3,6,2,4	4.50	2.50	AC	46-6	14	.035	Var	DR	100	15	•	7.0	•	Neg	UH	5									
Chevrolet, 1951.....	6, 2100A	DR	1112363	33.0-3700	7.0	20	.021	17-21	34	58T	Fly	1,5,3,6,2,4	4.50	2.50	AC	46-5	14	.035	Var	DR	100	15	•	7.0	•	Neg	UH	6									
Chrysler.....	6, C-48	AL	1112363	22.0-2850	4.0	16-20	.020	17-20	38½	TDC	VD	1,5,3,6,2,4	5.00	2.25	AL	AR5	14	.035	W-A	DR	120	17	•	10.0	•	Pos	UH	7									
Chrysler.....	8, C-49, C-50	AL	1112363	22.0-2850	4.0	14-18	.018	17-20	28½	TDC	VD	1,5,3,6,2,4	5.00	2.25	AL	AR5	14	.035	W-A	DR	135	19	•	10.0	•	Pos	UH	8									
Crosley, 1951.....	4, CD, VC	AL	IGW-4181C	34.0-3100	None	16-20	.020	17-20	46	12BT	Fly	1,3,4,2	5.00	2.00	CH	J-8	14	.025	EX	•	70	11	8.0	4.0	•	Pos	UH	9									
DeSoto.....	6, S-14	AL	•	22.0-2850	4.0	16-20	.019	17-20	38½	TDC	•	1,5,3,6,2,4	5.00	2.25	AL	AR5	14	.035	W-A	•	114	17	•	•	•	Pos	UH	10									
Dodge.....	6, D-33, D-34	AL	•	22.0-2850	4.0	14-18	.020	17-20	38½	TDC	•	1,5,3,6,2,4	5.00	2.25	AL	AR5	14	.035	W-A	•	105	15	•	•	•	Pos	UH	11									
Ford, 1951.....	6, 1HA	Own	7HA	None	2.3	26	.025	17-20	27½	TDC	CP	1,5,4,8,6,3,7,2	5.00	3.00	CH	H-10	14	.031	Var	•	90	15	9.0	4.0	•	Pos	UH	12									
Ford, 1951.....	6, 1BA	Own	1BA	None	2.3	27	.015	17-20	27½	TDC	CP	1,5,4,8,6,3,7,2	5.00	3.00	CH	H-10	14	.031	Var	•	90	15	9.0	4.0	•	Pos	UH	13									
Frazer, 1951.....	6, 515, 516	AL	IGS-4214	18.0-3360	11.0	10	.020	17-20	38	48T	VD	1,5,3,6,2,4	5.10	•	AL	A-5G	14	.032	Pak	AL	100	15	•	•	•	Pos	UH	14									
Henry J. 1951.....	4, 513	AL	IAT-4008A	22.0-3000	3.5	22	.020	17-21	38	TDC	Fly	1,3,4,2	5.00	2.50	AL	AN-7	14	.030	W-A	•	100	15	•	•	•	Pos	UH	15									
Henry J. 1951.....	6, 514	AL	IAT-4007	24.0-3000	3.5	14	.020	17-21	38	TDC	Fly	1,3,4,2	5.00	2.50	AL	AN-7	14	.030	W-A	•	100	15	•	•	•	Pos	UH	16									
Hudson, 1951.....	6, 4A	AL	IAT-4009	20.0-2400	12.0	10	.020	17-20	38	TDC	Fly	1,5,3,6,2,4	4.50	2.50	CH	H-8	14	.032	EX	Nat	100	17	•	•	•	Pos	UH	17									
Hudson, 1951.....	6, 6A, 9A	AL	IAT-4009A	18.0-4000	16.0	8	.020	17-20	38	TDC	Fly	1,5,3,6,2,4	4.50	2.50	CH	H-8	14	.032	EX	Nat	100	17	•	•	•	Pos	UH	18									
Hudson, 1951.....	6, 7A	AL	IAT-4009A	18.0-4000	16.0	8	.020	17-20	38	TDC	Fly	1,5,3,6,2,4	4.50	2.50	CH	H-8	14	.032	EX	Nat	100	17	•	•	•	Pos	UH	19									
Hudson, 1951.....	6, 8A	AL	IGT-4204B-1	35.0-3400	16.0	8	.017	17-20	27	TDC	Fly	1,5,2,5,8,3,7,4	4.50	2.50	CH	H-8	14	.032	EX	Nat	100	17	•	•	•	Pos	UH	20									
Kaiser, 1951.....	6, 511, 512	DR	1110224	18.0-3450	10.0	12	.020	17-20	34	48T	VD	1,5,3,6,2,4	•	•	AL	A-5	14	.032	Pak	AL	100	15	•	•	•	Pos	UH	21									
Lincoln, 1951.....	V8, 1E1, 1E1H	Own	OEL	None	.5°	24	.015	17-20	27½	48T	VD	1,5,4,8,6,3,7,2	5.00	3.00	CH	H-10	14	.031	EX	Var	120	17	9.0	4.0	•	Pos	UH	22									
Mercury, 1951.....	V8, 1CM	Own	1CM	None	.2°	21	.015	17-20	27½	28T	CP	1,5,4,8,6,3,7,2	5.00	3.00	CH	H-10	14	.031	EX	Var	100	17	9.0	4.0	•	Pos	UH	23									
Nash, 1951.....	6, 5110	DR	1112351	22.0-2800	15.0	15	.021	17-21	35	TDC	VD	1,5,3,6,2,4	3.90	1.70	AL	A-5	14	.030	AL	•	90	13	9.0	6.0	•	Pos	UH	24									
Nash, 1951.....	6, 5140	DR	1112351	22.0-2800	15.0	15	.021	17-21	35	TDC	VD	1,5,3,6,2,4	3.90	1.70	AL	A-5	14	.030	AL	•	90	13	9.0	6.0	•	Pos	UH	25									
Nash, 1951.....	6, 5160	DR	1110225	28.0-2700	7.0	12	.021	17-21	35	TDC	VD	1,5,3,6,2,4	3.90	1.70	AL	A-5	14	.030	AL	•	105	15	10.0	7.0	•	Pos	UH	26									
Oldsmobile.....	V8, 88, 98	DR	1110817	30.0-3700	7.0	20	.015	19-23	22	2½BT	CP	1,8,7,3,6,5,4,2	4.50	2.00	AC	(a)	14	.030	Own	DR	115	17	12.5	5.3	•	Neg	UH	27									
Packard, 1951.....	8, 200	(c)	(c)	•	•	•	.015	(b)	•	68T	(d)	1,6,2,5,8,3,7,4	2.75	(d)	•	(d)	14	.028	W-A	•	100	17	•	•	•	Pos	UH	28									
Packard, 1951.....	8, 300	(c)	(c)	•	•	•	.015	(b)	•	68T	(d)	1,6,2,5,8,3,7,4	2.75	(d)	•	(d)	14	.028	W-A	•	100	17	•	•	•	Pos	UH	29									
Packard, 1951.....	8, 400	(c)	(c)	•	•	•	.015	(b)	•	68T	(d)	1,6,2,5,8,3,7,4	2.75	(d)	•	(d)	14	.028	W-A	•	120	17	•	•	•	Pos	UH	30									
Plymouth.....	6, P-19, P-20	AL	•	22.0-2850	4.0	14-18	.020	17-20	38½	TDC	•	1,5,3,6,2,4	5.00	2.25	AL	AR5	14	.035	W-A	•	100	15	•	•	•	Pos	UH	31									
Pontiac, 1951.....	6, 1951-25	DR	1110222	28.0-4100	8.0	17	.022	17-21	34	68T	VD	1,5,3,6,2,4	4.20	2.40	AC	45	14	.028	Pak	DR	100	15	7.0	7.0	•	Neg	UH	32									
Pontiac, 1951.....	6, 1951-27	DR	1110818	27.0-4200	8.0	22	.016	19-23	35	68T	VD	1,5,3,6,2,4	4.20	2.40	AC	45	14	.028	Pak	DR	100	15	7.0	7.0	•	Neg	UH	33									
Studebaker, 1951.....	6, 10Q	AL	IAT-4001	14.0-2800	4.0	18	.020	17-20	39	28T	VD	1,5,3,6,2,4	4.50	1.00	CH	L-7	14	.025	A-P	WII	100	15	5.8	5.8	•	Pos	UH	34									
Studebaker, 1951.....	V8, H	DR	1110822	28.0-2800	5.0	16	.016	17-21	25½	68T	VD	1,5,4,3,6,5,7,2	4.50	2.50	CH	H-8	14	.035	A-P	WII	100	15	5.8	5.8	•	Pos	UH	35									
Willlys, 1951.....	4, 473-SD	AL	IAT-4008	22.0-4000	4.8	10	.020	17-20	51	TDC	Fly	1,3,4,2	5.00	•	CH	L-7	14	.030	AL	W-A	100	15	7.0	7.0	•	Neg	UH	36									
Willlys, 1951.....	6, 673-SW	AL	IAT-4008	24.0-3000	3.9	12	.020	17-20	39	TDC	VD	1,3,4,2	5.00	•	CH	L-7	14	.030	AL	W-A	100	15	7.0	7.0	•	Neg	UH	37									

ABBREVIATIONS

- †—12 for full advance
 ‡—Do not recommend using a dwell
 motor for checking point opening
 ◆—1 amp per positive plate
 †—14 for full advance

- ◆—Powerglide model, available at extra cost
 ††—D-33, crankshaft pulley; D-34, vibration damper
 ◆—5.5 for full advance
 ◆—5.0 for full advance
 ◆—6.1 for full advance

- (a)—Auto-Lite A-5 or AC 44
 (b)—Auto-Lite 19-23 or Delco-Remy 17-21
 (c)—Auto-Lite IGP-4502C or Delco-Remy 1110825
 (d)—Auto-Lite A-5, AC 46-5, or Champion J-8

- AC—A-C Spark Plug Div.
 AL—The Electric Auto-Lite Co.
 A-P—Auto-Lite or Packard
 BT—Before top center
 CH—Champion Spark Plug Co.
 CP—Crankshaft pulley
 DR—Delco-Remy Div.

- EX—Essex Wire Co.
 FLY—Flywheel
 Nat—National Battery Co.
 Neg—Negative
 Pak—Packard Electric Co.
 Pos—Positive
 TDC—Top dead center
 UH—Under hood
 Var—Various
 VD—Vibration damper
 W-A—Willard or Auto-Lite
 WII—Willard Storage Battery Co.

Allied
A.P.C.

American
Brakeblok

BALKAMP
PUMP, FUEL
INJECTOR, PLYMOUTH
AND ALL POPULAR CARS

Belden
WIRE AND CABLE

BRIDGEPORT
TIRE VALVES & ACCESSORIES

BRIGGS
SHOCK ABSORBERS

BROWN LIPE
GEAR BOXES

CELORON
TUNING GEAR

DETROIT
UNIVERSAL JOINTS

DITTMER
TRANSMISSION GEAR

DUCKWORTH
TUNING GEAR

ECHLIN
UNION PARTS

FEDERAL
BALL BEARINGS

Allied
GRAPHO
WATER PUMPS
PARTS, PACKING

MARTIN-SENOUR
AUTOMOTIVE FINISHES

MicroTest
SHOCK, BALL, SHOCKS

Modac
TAN BELTS AND
RADIATOR HOSE

Monmouth
SHOCK BEARINGS
CLUTCH PLATES & PARTS
CHASSIS PARTS

New Britain
HAND TOOLS

Allied
PRECISION
PISTON PINS

PURITAN
BRAKE FLUID, FLUSHING
FLUID, SHOCK ABSORBER
OIL, BRAKE OIL,
HYDRAULIC FLUID

RARITAN
ROLLER BEARINGS

Allied
RAYMOND
VALVE SPRINGS

Soundmaster
MUFFLERS

STANDARD
GREASE RETAINERS

Spicer
UNIVERSAL JOINTS

Thomson
THERMOSTATS

TRICO
VALVE OPERATED
SAFETY PRODUCTS

UNITED
SHOCK, FLUSHING
FLUID, SHOCK ABSORBER
OIL, BRAKE OIL,
HYDRAULIC FLUID

Allied
WISCONSIN
PISTON RINGS

ZOLLNER
MOTOR EQUIPMENT

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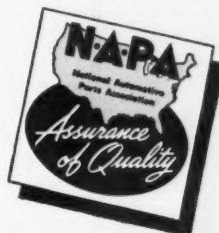
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• • •

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Starting Motors, Lamps and Horns

STARTING MOTORS										LAMPS					HORNS													
Line Number	PASSENGER CAR MAKE AND MODEL	Make	Model	Cranking Speed (R.P.M.)	Brush Spring Tension (Oz.)	Lock Test			No Load Test		Type of Drive	Starting Device	Starting Operation	Pinion Meshes	Flywheel			Make—Lighting Switch	Tail and Dash Lights in Series	Head Lamp—Make	Parking or Fender Light—Make	Tail and Stop Light—Make	Type	Number Used	Make	Amperage Draw of Each	Line Number	
						Amperage Draw	Torque (Lb. Ft.)	Volts	Amperage Draw	R.P.M.					No. of Teeth	Face Width	Ratio to Starter Armature (to 1)											
1	Buick..... 8, 40	DR	1107078	90	24-28	525	3.37	12.0	65.0	5.67	5000	Sgo	Sol	Dap	F	146	.547	16.22	DR	No	Gu	Gu	Vib	2	DR	17-21	1	
2	Buick..... 8, 50	DR	1107078	90	24-28	525	3.37	12.0	65.0	5.67	5000	Sgo	Sol	Dap	F	146	.547	16.22	DR	No	Gu	Gu	Vib	2	DR	17-21	2	
3	Buick..... 8, 70	DR	1107953	90	24-28	600	3.00	16.0	65.0	5.67	5000	Sgo	Sol	Dap	F	156	.672	17.33	DR	No	Gu	Gu	Vib	2	DR	17-21	3	
4	Cadillac..... V8, 61, 62, 60, 75	DR	1107969		24-28	600	3.10	16.0	65.0	5.67	5500		Sol	Pbd	F	145	.500	16.10	DR	No	Gu	Gu	Vib	2	DR	19-21	4	
5	Chevrolet, 1951..... 6, J1, JK	DR	1107075	125	24-28	525	3.40	12.0	65.0	5.00	5000	Sgo	Sol	Pbd	F	139	.500	15.44	DR	No	Gu	Gu	Vib	2	DR	17-21	5	
6	Chevrolet..... 6, 2100A	DR	1107075	125	24-28	525	3.40	12.0	65.0	5.00	5000	Sgo	Sol	Pbd	F	139	.500	15.44	DR	No	Gu	Gu	Vib	2	DR	17-21	6	
7	Chrysler..... 6, C-48	AL	42-53	150	42-53	530	3.40	13.0	57.5	6.00	5300	Sgo	Sol	Tik	F	148	.500	18.22	No	No	Gu	Gu	Vib	2	DR	20	7	
8	Chrysler..... 8, C-49, C-50	AL	42-53	150	42-53	530	3.40	13.0	57.5	6.00	5300	Sgo	Sol	Tik	F	148	.500	18.22	No	No	Gu	Gu	Vib	2	DR	20	8	
9	Crosley, 1951..... 4, CD, VC	AL	MZ-4147	250		280	2.00	4.4	70.0	5.50	4300	Ben	Sol	Pbd	R	88	.375	8.80	Dge	No	AL	AL	Vib	1	SW	7	9	
10	De Soto..... 6, S-14	AL			42-53	525	3.40	12.5	57.5	6.00	4900	Sgo	Sol	Tik	F	146	.500	16.22		No			Vib	2		20	10	
11	Dodge..... 6, D-33, D-34	AL			42-53	525	3.40	12.5	57.5	6.00	4900	Sgo	Sol	Tik	F	146	.500	16.22		No			Vib	2		20	11	
12	Ford, 1951..... 6, 1HA	Own	1HA	150	48-56	550	3.75	15.0	52.5	5.80	6000	Ben	Sol	Tik	R	114	.375	12.70		No	Own	Own	AE	2		11	12	
13	Ford..... V8, 1BA	Own	1BA	130	48-56	550	3.75	15.0	52.5	5.80	6000	Ben	Sol	Tik	R	112	.375	11.20		No	Own	Own	AE	2		11	13	
14	Frazier, 1951..... 6, 515, 516	AL	MAW-4054		42-53	505	3.00	11.5	65.0	5.50	4900	Ben	Sol	Pbd	F	130	.500	15.56	RBM	No	Hall	AL	Vib	2	Opt	11	14	
15	Henry J, 1951..... 4, 513	AL	MZ-4163		42-53	335	2.00	6.0	65.0	5.00	4300	Ben	Sol	Pbd	F	124	.375	13.78	C-H	No	Hall	Hall	Vib	1	DR	15	15	
16	Henry J..... 6, 514	AL	MZ-4163		42-53	335	2.00	6.0	65.0	5.00	4300	Ben	Sol	Pbd	F	124	.375	13.78	C-H	No	Hall	Hall	Vib	1	DR	15	16	
17	Hudson, 1951..... 6, 51A	AL	MZ-4163	120	42-53	280	2.00	4.4	70.0	5.50	4300	Ben	Sol	Pbd	R	134	.408	14.90	PC	No	Hall	AL	AE	2	SW	16	17	
18	Hudson..... 6, 56A	AL	MCH-5109	120	42-53	335	2.00	6.0	65.0	5.50	4800	Ben	Sol	Pbd	R	134	.408	14.90	PC	No	Hall	AL	AE	2	SW	16	18	
19	Hudson..... 6, 7A	AL	MCH-5109	120	42-53	335	2.00	6.0	65.0	5.50	4800	Ben	Sol	Pbd	R	134	.408	14.90	PC	No	Hall	AL	AE	2	SW	16	19	
20	Hudson..... 6, 8A	AL	MCH-5109	120	42-53	335	2.00	6.0	65.0	5.50	4800	Ben	Sol	Pbd	R	134	.408	14.90	PC	No	Hall	AL	AE	2	SW	16	20	
21	Kaiser, 1951..... 6, 511, 512	DR	X10289		22-32	525	3.70	12.0	70.0	5.00	5000	Ben	Sol	Pbd	F			C-H	No	Hall	Hall	Hall	Vib	2	Opt	21	21	
22	Lincoln, 1951..... V6, 1EL, 1EH	Own	8EL	120	48-56	550	3.25	15.0	52.5	5.80	6000	Ben	Sol	Pbd	R	120	.375	12.00	Var	No	Own	Own	AE	2	W-A	11	22	
23	Mercury, 1951..... V6, 1CM	Own	7RM	130	48-56	550	3.75	15.0	52.5	5.80	6000	Ben	Sol	Pbd	R	112	.375	11.20		No	Own	Own	AE	2	Var	11	23	
24	Naah, 1951..... 6, 5100	DR	1109463		24-28	555	3.20	12.2	55.0	5.70	5000	Ben	Man	Dcp	R	122	.438	13.55	Dge	No	Hall	Uc	Vib	2	EA	12	24	
25	Naah..... 6, 5140	DR	1109463		24-28	555	3.20	12.2	55.0	5.70	5000	Ben	Man	Dcp	R	122	.438	13.55	Dge	No	Hall	AL	Vib	2	EA	12	25	
26	Oldsmobile..... V8, 88, 98	DR	1107950		24-28	600	3.00	16.0	60.0	5.00	6000	Ben	Man	Dcp	R	104	.438	11.55	Dge	No	Hall	AL	Vib	2	AL	15	26	
27	Oldsmobile..... V8, 88, 98	DR	1107956	120	24-28	600	3.00	15.0	80.0	5.70	5500		Sol	Pbd	F	145	.375	16.11	DR	No	Gu	Gu	Vib	2	DR	18-20	27	
28	Packard, 1951..... 8, 200	(a)	(a)			(b)	(c)	(d)				Ben	Sol	Pbd	F	140		15.55		No					2	SW	22-25	28
29	Packard..... 8, 300, 400	(a)	(a)			(b)	(c)	(d)				Ben	Sol	Pbd	F	140		15.55		No					2	SW	22-25	29
30	Plymouth..... 6, P-19, P-20	AL	MCH-6101		42-53	525	3.40	12.5	57.5	6.00	4900	Ben	Sol	Tik	F	146	.500	16.22		No			Vib	2		30	30	
31	Pontiac, 1951..... 6, 1951-25	DR	1107079	121	24-28	525	3.37	12.0	65.0	5.67	5000	Sgo	Sol	Pbd	F	140	.500	15.55	DR	No	Gu	Gu	Vib	2	DR	16-17	31	31
32	Pontiac..... 8, 1951-27	DR	1107957	118	24-28	600	3.00	15.0	60.0	5.00	6000	Sgo	Sol	Pbd	F	140	.500	15.55		No			Vib	2	DR	16-17	32	32
33	Studebaker, 1951..... 6, 10G	AL	MZ-4157	130	42-53	560	4.00	11.8	70.0	5.50	4300	Ben	Sol	Dcp	F	124	.375	13.77	Dge	No	C-B	C-B	Vib	2	D-W	12-15	33	33
34	Studebaker..... V8, H	DR	1107089	100	24-28	525	3.40	12.0	65.0	5.70	5000	Ben	Sol	Dcp	F	133	.375	14.78	Dge	No	C-B	C-B	Vib	2	D-W	12-15	34	34
35	Willys, 1951..... 4, 472, SD	AL	MZ-4162	185	42-53	280	2.00	4.4	68.0	5.00	4000	Sgo	Man	Dcp	F	124	.375	13.78	C-H	No	H-C	C-B	Vib	1	W-A	7-9	35	35
36	Willys..... 6, 673-SW	AL	MZ-4162	185	42-53	280	2.00	4.4	68.0	5.00	4000	Sgo	Man	Dcp	F	124	.375	13.78	C-H	No	H-C	C-B	Vib	1	W-A	7-9	36	36

ABBREVIATIONS

- 1—Powerglide model, available at extra cost.
 (a)—Auto-Lite MCL-6113, or Delco-Remy 1107943.
 (b)—Auto-Lite 875 amp; Delco-Remy 600 amp.
 (c)—Auto-Lite 4 volts; Delco-Remy 3 volts.
 (d)—Auto-Lite 25 lb ft; Delco-Remy 16 lb ft.
 AE—Air electric.
 AL—The Electric Auto-Lite Co.
 Ben—Bendix.

- C-H—Corcoran-Brown Lamp Div.
 C-B—Cole-Hershe.
 Dap—Depress accelerator pedal.
 Dep—Depress clutch pedal.
 Dge—H. A. Douglas Mfg. Co.
 DR—Delco-Remy Div.
 Dap—Depress starter pedal.

- D-W—Delco-Remy and Sparks-Wilington.
 EA—E. A. Laboratories, Inc.
 F—Front.
 Gu—Guide Lamp Div.
 Hall—C. M. Hall Lamp Co.
 H-C—Hall or Corcoran-Brown.

- Man—Manual.
 Pbd—Push button on dash.
 PC—Pollach and Cole-Hershe.
 R—Rear.
 RBM—RBM Div.
 Sgo—Sliding gear with overrunning clutch.
 Sol—Solenoid.

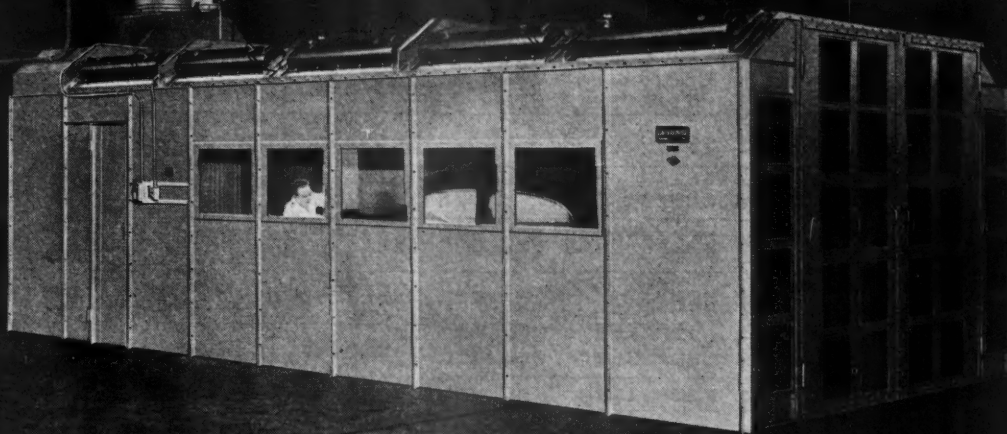
- SW—Sparks-Wilington Co.
 TK—Turn ignition key beyond "on" position.
 Uc—Ucinite.
 Var—Various.
 Vib—Vibrator.
 W-A—Sparks-Wilington and Auto-Life.

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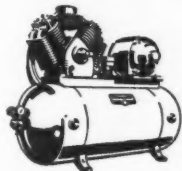
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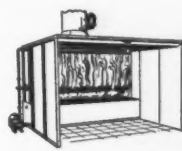
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

FOR BETTER SERVICE, BUY

DeVILBISS



Generators and Clutches

ABBREVIATIONS

—Long or Borg & Beck disk
—Powerplate model, available at extra cost
—Auxiliary clutch with fluid coupling
—Driven disk—own and Borg & Beck;
remainder—own and Inland
(b)—Borg & Beck or Auburn
(c)—Drive plate assembly—Borg & Beck; remainder—Auburn
(d)—Model 88, 22 mph; model 98, 21 mph

(e)—AL—GGW-4003A or DR—1102745
(f)—Driving plate—Auburn; remainder Borg & Beck

AC—AC Spark Plug Div.
AL—The Electric Auto-Lite Co.
B & B—Borg & Beck Div.

CV—Current and voltage regulator
DR—Delco-Remy Div.
DF—Direct to flywheel face
FI—Fluid flywheel
IL—Indicating light
Inl—Inland Mfg. Co.

KS—King-Seecley Corp.
Long—Long Mfg. Div.
MA—Molded asbestos
NM—Molded metallic
OP—Operating temperature
Rock—Rockford Clutch Div.

Shu—Shunt
Spr—Spring
Stew—Stewart-Warner Corp.
Var—Various
WA—Woven asbestos
WM—Woven or molded asbestos
WMA—Woven molded asbestos

Child

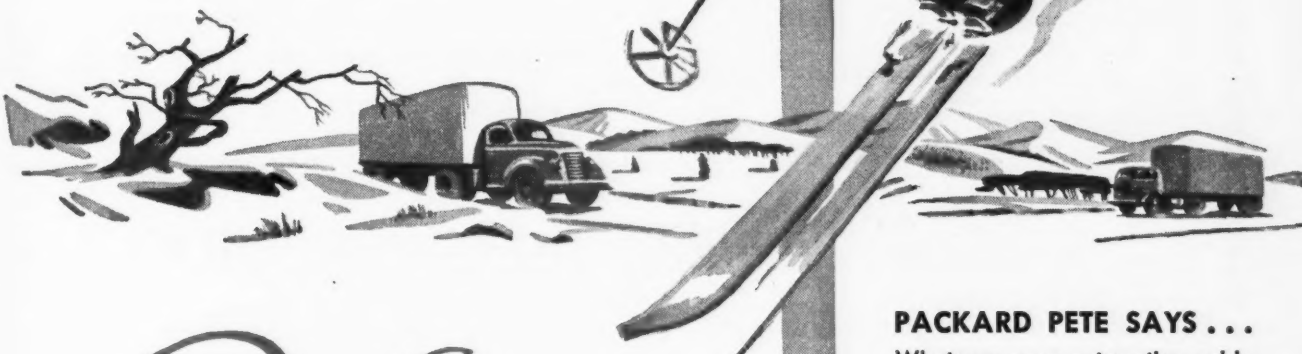
Where Performance Counts...

use **PACKARD** **AUTOMOTIVE CABLE**

Top performance over the miles and over the years. That is the record of Packard automotive cable. And it is a record made even more impressive by the fact that Packard automotive cable is used as original equipment on more cars, trucks and buses than any other make.

Moreover, Packard cable permits complete wiring standardization. For example Packard 440 and Lac-Kard high tension cables are designed to meet the requirements of *all* vehicles... designed to deliver superior performance in every make and model vehicle on the road.

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Packard Electric Division, General Motors Corporation
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AUTOMOTIVE AND AVIATION WIRING**

PACKARD PETE SAYS...

Whatever your automotive cable requirements, Packard cable fills the bill. Packard low tension cable with amazing "249 compound" insulation lasts longer, won't support combustion. Packard high tension cables come in spools or packaged in sets ready for instant use. And Packard battery cables offer a choice of LeadAlloy or leaded brass terminals. All offer outstanding performance, endurance and dependability.

Chilton's MOTOR AGE, JANUARY, 1951

†—Drive Master also available at extra cost

Powerglide model, available at extra cost

—At extra cost

—Optional for D-34, not available with D-33

ABBREVIATIONS

Mo—Mechanics Universal Joint Div.
Mp—Metal with plain bearing
M-S—Mechanics or Saginaw
Nb—Needle bearing
NEA—New England Auto Products
NL—Permanently lubricated

Gp—Grease—prepacked
Gr—Grease
Hel—Helical
Hyd—Hydraulic shifting mechanism
If—Infinitely variable
Ma—Metal with anti-friction bearing

SA—Stabilizing arms
Sag—Saginaw Steering Gear Div.
Sp—Spicer Mfg. Div.
Spr—Springs
SS—Saginaw or Spicer
TC—Hydrokinetic torque converter

TL—Transmission lubricant
TT—Torque tube
UMS—Universal Mechanics, or Spicer
UP—Universal Products
WG—Warner Gear

- Powerglide model, available at extra cost
- At extra cost
- Optional for D-34, not available with D-33

You Benefit

*because our only business
is the production of the
best Protective Coatings
possible to manufacture.*

The maximum in
corrosion and erosion protection,
sound-deadening and sealing,
length of life
and
overall economy.

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Gilsonite

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No. 4913
Cork Impregnated Karkote

No. 4517
Standard Karkote

INSUL-MASTIC CORPORATION OF AMERICA

Karkote Division, Oliver Building, Pittsburgh 22, Pa.

1950-51 PASSENGER CARS

Steering and Brakes

STEERING										FOOT BRAKES										HAND BRAKES											
Line Number	Gear		Ratio (to 1)	Drag Link-Type	No. of Tie Rods	Intermediate Arm	Car Turning Radius (ft.)	Caster (Deg.)	Camber (Deg.)	Toe-in (in.)	Kingpin Inclination (Deg.)	Make	Type	Type Lining		Material	Drums		Lining		Clearance		Total Foot Braking Area (Sq. In.)	Per Cent Braking on Rear Wheels	Operates	Internal or External	Lining				
	Type	Make												Primary Shoe	Secondary Shoe		Diameter (in.)	Length per Wheel (in.)	Width (in.)	Thickness (in.)	Toe	Heel					Length per Drum (in.)	Width (in.)	Thickness (in.)	Drum Diameter (in.)	
1 Buick.....	BW	Sag	19.8	No	2	No	19.75	1/2 P to 1 1/2 P	2/8 P to 3/8 N	1/8 to 1/4	4 1/2	B-D	H	Mo	Mo	Cl	12	23 1/2	1 3/4	1 1/2	.015	181.5	47.0	RS	Ext	6	15 1/2	2	1 1/2	.018	1
2 Buick.....	BW	Sag	19.8	No	2	No	19.75	1/2 P to 1 1/2 P	2/8 P to 3/8 N	1/8 to 1/4	4 1/2	B-D	H	Mo	Mo	Cl	12	23 1/2	1 3/4	1 1/2	.015	181.5	47.0	RS	Ext	6	15 1/2	2	1 1/2	.018	2
3 Buick.....	BW	Sag	23.6	No	2	No	20.90	1/2 P to 1 1/2 P	2/8 P to 3/8 N	1/8 to 1/4	4 1/2	B-D	H	Mo	Mo	Cl	12	23 1/2	1 3/4	1 1/2	.015	207.5	47.0	RS	Ext	6	15 1/2	2	1 1/2	.018	3
4 Cadillac.....	RB	Sag	21.3	Tra	2	No	22.50	1/2 N to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	5 5/16	Ben	H	Mo	Mo	Co	11	22 1/2	2 1/2	2 1/2	.008	224.5	44.2	RS	Ext	6	15 1/2	2	2 1/2	.018	4
5 Cadillac.....	WB	Sag	21.3	Tra	2	No	25.50	1/2 N to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	5 5/16	Ben	H	Mo	Mo	Co	11	25 1/2	2 1/2	2 1/2	.008	256.5	44.2	RS	Ext	6	15 1/2	2	2 1/2	.018	5
6 Chevrolet.....	WB	Sag	19.4	Lg	2	No	18.50	1/2 N to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	4 1/2	Own	H	Mo	Mo	Co	11	20 1/2	2 1/2	2 1/2	.008	161.0	44.1	RS	Ext	6	15 1/2	2	2 1/2	.018	6
7 Chevrolet.....	WB	Sag	19.4	Lg	2	Y	18.50	1/2 N to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	4 1/2	Own	H	Mo	Mo	Co	11	20 1/2	2 1/2	2 1/2	.008	161.0	44.1	RS	Ext	6	15 1/2	2	2 1/2	.018	7
8 Chrysler.....	WR	Sag	18.2	Lg	2	Y	18.50	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Own	H	Mo	Mo	Co	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	7	13 1/2	2	2	.018	8
9 Chrysler.....	WR	Sag	18.2	Lg	2	Y	18.50	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Own	H	Mo	Mo	Co	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	7	13 1/2	2	2	.018	9
10 Chrysler.....	WR	Sag	18.2	Lg	2	Y	18.50	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Own	H	Mo	Mo	Co	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	7	13 1/2	2	2	.018	10
11 Chrysler.....	WR	Sag	20.4	Lg	2	Y	18.50	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Own	H	Mo	Mo	Co	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	7	13 1/2	2	2	.018	11
12 Chrysler.....	CL	Ross	17.5	Lg	1	No	15.00	7/2	2	1/8 to 1/4	8 1/2	GH	H	Mo	Mo	Cl	12	25 1/2	2	2	.010	280.0	40.0	RS	Int	7	13 1/2	2	2	.010	12
13 DeSoto.....	WR	WR	18.2	Lg	2	Y	18.2	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Cr-L	H	Mo	Mo	Cl	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	6	15 1/2	2	2	.018	13
14 Dodge.....	WR	WR	18.2	Lg	2	Y	18.2	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Cr-L	H	Mo	Mo	Cl	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	6	15 1/2	2	2	.018	14
15 Dodge.....	WR	WR	18.2	Lg	2	No	18.2	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Cr-L	H	Mo	Mo	Cl	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	6	15 1/2	2	2	.018	15
16 Dodge.....	WR	WR	18.2	Lg	2	No	18.2	1/2 N to 3N	0 to 3/8 P	0 to 1/8	4 1/2 to 6	Cr-L	H	Mo	Mo	Cl	12	25 1/2	2	2	.006	201.1	40.0	T	Ext	6	15 1/2	2	2	.018	16
17 Ford.....	WR	Own	17.7	Tra	2	Y	20.50	1/2 P to 1N	0 to 1P	1/8 to 1/4	5 1/2	Own	H	Mo	Mo	Cl	10	21 1/2	2	2	.010	173.1	38.0	RS	Ext	6	15 1/2	2	2	.018	17
18 Ford.....	WR	Own	17.7	Tra	2	Y	20.50	1/2 P to 1N	0 to 1P	1/8 to 1/4	5 1/2	Own	H	Mo	Mo	Cl	10	21 1/2	2	2	.010	173.1	38.0	RS	Ext	6	15 1/2	2	2	.018	18
19 Frazer.....	WR	Own	18.2	Tra	2	Y	20.00	1N to 1P	0 to 1/2 P	0 to 1/8	4 1/2 to 5 1/2	Ben	H	Mo	Mo	Cl	11	22 1/2	2	2	.010	175.7	44.5	RS	Ext	6	15 1/2	2	2	.018	19
20 Henry J.....	WR	Own	18.2	Tra	1	No	17.50	1N to 1P	1/2 P to 1P	1/8 to 1/4	4 1/2	Ben	H	Mo	Mo	Cl	9	20 1/2	2	2	.010	132.0	40.0	RS	Ext	6	15 1/2	2	2	.018	20
21 Hudson.....	WR	Own	18.2	Tra	1	No	17.50	1N to 1P	1/2 P to 1P	1/8 to 1/4	4 1/2	Ben	H	Mo	Mo	Cl	9	20 1/2	2	2	.010	132.0	40.0	RS	Ext	6	15 1/2	2	2	.018	21
22 Hudson.....	WR	Own	18.2	Tra	1	No	17.50	1N to 1P	1/2 P to 1P	1/8 to 1/4	4 1/2	Ben	H	Mo	Mo	Cl	9	20 1/2	2	2	.010	132.0	40.0	RS	Ext	6	15 1/2	2	2	.018	22
23 Hudson.....	WR	Gem	18.2	Lg	2	Y	19.65	1/2 P to 1 1/2 P	3/8 P to 1 1/2 P	0 to 1/8	3 3/8	Ben	D	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.010	158.7	44.5	RS	Ext	6	15 1/2	2	2	.018	23
24 Hudson.....	WR	Gem	18.2	Lg	2	Y	21.16	1/2 P to 1 1/2 P	3/8 P to 1 1/2 P	0 to 1/8	3 3/8	Ben	D	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.010	158.7	44.5	RS	Ext	6	15 1/2	2	2	.018	24
25 Kaiser.....	WR	Gem	20.4	Lg	2	Y	21.16	1/2 P to 1 1/2 P	3/8 P to 1 1/2 P	0 to 1/8	3 3/8	Ben	D	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.010	158.7	44.5	RS	Ext	6	15 1/2	2	2	.018	25
26 Kaiser.....	WR	Gem	20.4	Lg	2	Y	21.16	1/2 P to 1 1/2 P	3/8 P to 1 1/2 P	0 to 1/8	3 3/8	Ben	D	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.010	158.7	44.5	RS	Ext	6	15 1/2	2	2	.018	26
27 Lincoln.....	WR	Gem	18.2	Tra	2	Y	21.90	0 to 1 1/2 N	0 to 1/2 P	1/8 to 1/4	5	Ben	H	Mo	Mo	Cl	12	22 1/2	2	2	.010	196.4	41.0	RS	Ext	6	15 1/2	2	2	.018	27
28 Mercury.....	WR	Gem	18.2	Tra	2	Y	21.50	0 to 1 1/2 N	0 to 1/2 P	1/8 to 1/4	5	Ben	H	Mo	Mo	Cl	11	21 1/2	2 1/2	2 1/2	.010	159.1	44.0	RS	Ext	6	15 1/2	2	2	.018	28
29 Nash.....	WR	Gem	20.0	Tra	2	Y	18.50	1/2 P to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	8 1/2	Ben	H	Mo	Mo	Cl	9	18 1/2	2 1/2	2 1/2	.015	92.1	39.8	RS	Ext	6	15 1/2	2	2	.018	29
30 Nash.....	WR	Gem	20.0	Tra	2	Y	21.16	1/2 P to 1 1/2 P	3/8 N to 1/2 P	1/8 to 1/4	8 1/2	Ben	H	Mo	Mo	Cl	9	18 1/2	2 1/2	2 1/2	.015	92.1	39.8	RS	Ext	6	15 1/2	2	2	.018	30
31 Oldsmobile.....	WR	Sag	19.0	Tra	2	Y	22.00	0 to 1 1/2 N	1/2 N to 1 1/2 P	1/8 to 1/4	4 1/2 to 4 7/8	Ben	H	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.015	160.0	43.7	RS	Ext	6	15 1/2	2	2	.018	31
32 Oldsmobile.....	WR	Sag	19.0	Tra	2	Y	22.00	0 to 1 1/2 N	1/2 N to 1 1/2 P	1/8 to 1/4	4 1/2 to 4 7/8	Ben	H	Mo	Mo	Cl	11	20 1/2	2 1/2	2 1/2	.015	160.0	43.7	RS	Ext	6	15 1/2	2	2	.018	32
33 Oldsmobile.....	WR	Sag	21.3	Tra	2	No	21.00	0 to 1 1/2 N	1/2 N to 1 1/2 P	1/8 to 1/4	4 1/2 to 4 7/8	Ben	H	Mo	Mo	Cl	11	21 1/2	2 1/2	2 1/2	.015	191.7	42.0	RS	Ext	6	15 1/2	2	2	.018	33
34 Packard.....	WR	Gem	20.4	No	2	No	21.50	1 1/2 N to 1 1/2 N	1/2 N to 1 1/2 P	0 to 1/8	5 5/8	Ben	H	Mo	Mo	Cl	12	24 1/2	1 3/4	1 3/4	.006	171.5	40.5	RS	Ext	6	15 1/2	2	2	.018	34
35 Packard.....	WR	Gem	20.4	No	2	No	22.50	1 1/2 N to 1 1/2 N	1/2 N to 1 1/2 P	0 to 1/8	5 5/8	Ben	H	Mo	Mo	Cl	12	24 1/2	1 3/4	1 3/4	.006	171.5	40.5	RS	Ext	6	15 1/2	2	2	.018	35
36 Plymouth.....	WR	WR	18.2	No	2	No	18.2	1N to 1P	0 to 1/2 P	0 to 1/8	4 1/2 to 6	Cr-L	H	Mo	Mo	Cl	10	21 1/2	2	2	.006	158.0	40.0	T	Ext	6	15 1/2	2	2	.018	36
37 Pontiac.....	WR	Sag	19.0	No	2	No	19.75	1/2 N to 1N	1/2 N to 1 1/2 P	0 to 1/8	4 1/2 to 5 1/4	Ben	H	Mo	Mo	Cl	11	21 1/2	2	2	.006	171.0	40.5	RS	Ext	6	15 1/2	2	2	.018	37
38 Pontiac.....	WR	Sag	19.0	No	2	No	19.75	1/2 N to 1N	1/2 N to 1 1/2 P	0 to 1/8	4 1/2 to 5 1/4	Ben	H	Mo	Mo	Cl	11	21 1/2	2	2	.006	171.0	40.5	RS	Ext	6	15 1/2	2	2	.018	38
39 Studebaker.....	WR	WR	15.4	Lg	2	Y	19.75	1N to 2 1/2 N	0 to 1P	1/8 to 1/4	5 1/4	Wag	H	Mo	Mo	Cl	9	18 1/2	2	2	.006	148.0	43.0	RS	Ext	6	15 1/2	2	2	.018	39
40 Willys.....	WR	Ross	15.4	Lg	2	No	19.75	1N to 2 1/2 N	0 to 1P	1/8 to 1/4	5 1/4	Wag	H	Mo	Mo	Cl	9	18 1/2	2	2	.006	148.0	43.0	RS	Ext	6	15 1/2	2	2	.018	40
41 Willys.....	WR	Ross</																													

ABBREVIATIONS

- ⬆—Tighten until shoes are firm against drum, back off 1 notch
- (d)—Disk brake, 12 segments per wheel
- (e)—Disk brake with 2 buttons of 1 1/4 in. diam per wheel
- (f)—Front 2 1/2 in., rear 2 in.
- (g)—Front 2 1/2 in., rear 1 3/2 in.
- (h)—Front 2 1/2 in., rear 2 1/2 in.
- (i)—Front 2 1/2 in., rear 2 1/2 in.
- (j)—Front 2 1/2 in., rear 2 1/2 in.
- (k)—Front 2 1/2 in., rear 2 1/2 in.
- (l)—Front 2 1/2 in., rear 2 1/2 in.
- (m)—Front 2 1/2 in., rear 2 1/2 in.
- (n)—Front 2 1



**Insist on a "VIXEN"
...in the new white package**

"VIXEN" now comes in a new, white, sealed, riveted envelope... packaged in a white, easily identified carton. This protects you against imitations when you buy. When you see these *white* containers, you're sure you're getting a genuine Heller "VIXEN."

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*Helps turn out
body and fender
dent work
five-ways better!*

- ✓ Smooths as it cuts
- ✓ Genuine shearing action, without scraping, tracking, grooving or scratching
- ✓ Removes more metal more easily
- ✓ No loading or clogging of teeth
- ✓ Handy holder easily curves "VIXEN" in or out to fit surface contour



Only a milled curved-tooth "VIXEN" can be resharpened again and again! This means that "VIXEN" costs less in the long run!



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Rear Axles, Tires and Frames

Line Number	PASSENGER CAR MAKE AND MODEL	REAR AXLE										TIRES				RIM		FRAME DIMENSIONS (In.)							
		Make	Type	Min. Road Clearance (In.)	LUBRICATION			GEARING				Pinion Bearing Adjustment	Pinion Bearing in Sleeve	Back Lash (Average In.)	Make	Size	Number of Piles	Inflation Pressure (psi.) Cold		Diameter (In.)	Width (In.)	Depth (Maximum)	Thickness (Maximum)	Flange Width (Maximum)	
					Capacity (Pts.)	Grade		Type	Ratios									Ring	No. of Teeth						
						Summer	Winter		Standard	Optional															
1	Buick	8, 40	SF	7.76	4	90 Hyp	Hyp	4.10	3.90	41	10	Shim	No	.008	US, Fire, Go	7.60/15	4	24	24	15	6.00	5 1/2	1 1/2	2 1/4	
2	Buick	8, 50	SF	7.76	4	90 Hyp	Hyp	3.90	3.60	43	11	Shim	No	.008	US, Fire, Go	7.60/15	4	24	24	15	6.50	5 1/2	1 1/2	2 1/4	
3	Buick	8, 50	SF	8.26	4	90 Hyp	Hyp	3.60	3.30	47	13	Shim	No	.008	US, Fire, Go	8.00/15	4	24	24	15	6.50	5 1/2	1 1/2	2 1/4	
4	Cadillac	V8, 61	SF	8.34	5	90 Hyp	Hyp	3.77	3.36	49	13	None	No	.006	US, Fire, Go	8.00/15	4	24	24	15	6.00				
5	Cadillac	V8, 62, 60	SF	8.34	5	90 Hyp	Hyp	3.36	3.36	47	14	None	No	.006	US, Fire, Go	8.00/15	4	24	24	15	6.00				
6	Cadillac	V8, 75	SF	8.44	5	90 Hyp	Hyp	4.27	3.77	47	11	None	No	.006	US, Fire, Go	8.20/15	6	28	28	15	6.00				
7	Chevrolet, 1951	6, J, JK	SF	8.00	3 1/2	90 Hyp	Hyp	4.11	N	37	9	Shim	No	.006	US, Fire, Go	6.70/15	4	24	24	15	5.00	4 1/2	1 1/2	3 3/8	
8	Chevrolet	6, 2100L	SF	8.06	3 1/2	90 Hyp	Hyp	3.55	N	39	(b)	Shim	No	.008	Gy, Fire, Go	6.70/15	4	24	24	15	5.00	4 1/2	1 1/2	3 3/8	
9	Chrysler	6, C-48	SF	8.75	3 1/2	90 Hyp	Hyp	(a)		(b)	11	Shim	No	.008	Gy	7.60/15	4	24	24	15	5.50	6	3 1/2	3 1/2	
10	Chrysler	6, C-49	SF	8.62	3 1/2	90 Hyp	Hyp	3.54		39	11	Shim	No	.008	Gy	8.20/15	4	24	24	15	6.00	8 1/2	3 1/2	3 1/2	
11	Chrysler	8, C-50	SF	9.00	5	90 Hyp	Hyp	3.58		43	12	Shim	No	.008	Gy	8.90/15	6	24	24	15	6.50	8 1/2	3 1/2	3 1/2	
12	Crosley, 1951	4, CD, VC	SF	6.50	1 1/2	90 Hyp	S8	5.17	3.73	31	6	Shim	No	.008	Fire, Gy	4.50/12	4	25	25	12	3.00	3	1 1/2	1 1/2	
13	DeSoto	6, S-14	SF	8.25	3 1/2	90 Hyp	Hyp	3.90	3.73	39	10	Shim	No	.008	Gy	7.60/15	4	24	24	15	5.50	6	3 1/2	3 1/2	
14	Dodge	6, D-33	SF	8.00	3 1/2	90 Hyp	Hyp	3.90	3.73	39	10	Shim	No	.008	Gy	7.60/15	4	24	24	15	5.50	6	3 1/2	3 1/2	
15	Dodge	6, D-34	SF	8.12	3 1/2	90 Hyp	Hyp	3.90	3.73	39	10	Shim	No	.008	Gy	7.10/15	4	24	24	15	5.00	6	3 1/2	3 1/2	
16	Ford, 1951	6, 1HA	SF	8.20	3 1/2	90 Hyp	Hyp	3.73	4.10	41	11	Shim	No	.006	Var	6.00/15	4	28	25	16	4.50	4	3 1/2	3 1/2	
17	Ford	V8, 18A	SF	8.20	3 1/2	90 Hyp	Hyp	3.73	4.10	41	11	Shim	No	.006	Var	6.00/15	4	28	25	16	4.50	4	3 1/2	3 1/2	
18	Frazer, 1951	6, 515, 516	SF	7.61	3	90 Hyp	Hyp	3.91	4.27	47	11	Shim	No	.004	Gy	7.10/15	4	24	24	15	5.00	6 1/2	1 1/2	1 1/2	
19	Henry J, 1951	4, 513	SF	7.75	3	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No		Gy	5.90/15	4	24	24	15	4.00	4	3	3	
20	Henry J	6, 514	SF	7.75	3	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No		Gy	5.90/15	4	24	24	15	4.00	4	3	3	
21	Hudson	6, 4A	SF	8.12	3 1/2	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No	.005	Gy	7.10/15	4	26	24	15	5.00				
22	Hudson	6, 5A, 6A	SF	8.12	3 1/2	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No	.005	Gy	7.10/15	4	26	24	15	5.00				
23	Hudson	6, 7A	SF	8.12	3 1/2	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No	.005	Gy	7.10/15	4	26	24	15	5.00				
24	Kaiser	6, 6A	SF	8.12	3 1/2	90 Hyp	Hyp	4.10	4.55	41	10	Shim	No	.005	Gy	7.10/15	4	26	24	15	5.00				
25	Kaiser, 1951	6, 511, 512	SF	7.81	3	90 Hyp	Hyp	3.91	4.55	45	11	Shim	No	.004	Gy	6.70/15	4	24	24	15	5.00	5 1/2	1 1/2	1 1/2	
26	Lincoln, 1951	V8, 1EL, 1EH	SF		4		Hyp	3.81	4.27	43	11	Shim	No	.006	Gy	(c)	4	(d)	24	15	6.00	5 1/2	2	28	
27	Mercury, 1951	V8, 1CM	SF		3		Hyp	3.81	4.27	43	11	Shim	No	.006	Gy	7.10/15	4	24	24	15	5.50	5 1/2	2	27	
28	Nash, 1951	6, 5110	SF	7.75	3	90 Hyp	Hyp	3.78	4.10	34	9	Shim	No	.005	Var	6.40/15	4	24	24	15	4.00	Int		28	
29	Nash	6, 5140	SF	7.75	3	90 Hyp	Hyp	4.38	4.88	35	8	Shim	No	.005	Gy	6.40/15	4	24	24	15	4.50	Int		29	
30	Nash	6, 5160	SF	8.00	4	90 Hyp	Hyp	4.10	4.44	41	10	Shim	No	.005	Gy	7.10/15	4	24	24	15	5.00	Int		30	
31	Oldsmobile	V8, 88	SF		3 1/2		Hyp	3.64	3.90	40	11	Shim	Nut	.006	Var	7.60/15	4	24	24	15	5.50	6 1/2	2 1/4	31	
32	Oldsmobile	V8, 98	SF		3 1/2		Hyp	3.80	3.64	39	10	Shim	Nut	.005	Var	7.60/15	4	24	24	15	5.50	5 1/2	2 1/4	32	
33	Packard, 1951	6, 200	SF		4		Hyp	3.90	3.90	39	10	Shim	Nut	.004	Var	8.00/15	4	24	24	15	5.50	5 1/2	2 1/4	33	
34	Packard	8, 300, 400	SF		4		Hyp	3.90	3.64	39	10	Shim	Nut	.004	Var	8.00/15	4	24	24	15	6.00	6	2 1/4	34	
35	Plymouth	6, P-19	SF	7.50	3 1/2	90 Hyp	Hyp	3.73	3.90	41	11	Shim	No	.008	Gy	6.40/15	4	24	24	15	4.50	6	3 1/2	3 1/2	
36	Plymouth	6, P-20	SF	9.00	3 1/2	90 Hyp	Hyp	3.90	3.73	39	10	Shim	No	.008	Gy	7.10/15	4	24	24	15	4.50	6	3 1/2	3 1/2	
37	Pontiac, 1951	6, 1951-25	SF	7.58	3 1/2	90 Hyp	Hyp	4.10	3.90	41	10	Shim	No	.008	Var	7.10/15	4	24	24	15	4.50	6	3 1/2	3 1/2	
38	Pontiac	6, 1951-27	SF	7.58	3 1/2	90 Hyp	Hyp	3.90	4.10	39	10	Shim	No	.008	Var	7.10/15	4	24	24	15	5.50	6 1/2	2 1/4	38	
39	Studebaker, 1951	6, 10G	SF	8.00	2 1/2	90 Hyp	Hyp	4.10	4.56	41	11	Shim	No	.004	Fire, Gy	6.40/15	4	26	24	15	5.00	3 1/2	1 1/2	39	
40	Studebaker	V8, H	SF		3		Hyp	4.09	4.56	45	11	Shim	No	.004	Fire, Gy	7.10/15	4	26	22	15	5.00	3 1/2	1 1/2	40	
41	Willlys, 1951	4, 473-SD	SF	8.38	2	90 Hyp	Hyp	4.68	5.38	39	8	Shim	No	.006	Gy, Go	6.50/15	4	24	28	15	4.50	5	3 1/2	41	
42	Willys	4, 673-SW	SF	8.50	2	90 Hyp	Hyp	5.38	5.38	43	8	Shim	No	.006	Gy, Go	6.70/15	4	20	24	15	4.50	5	3 1/2	42	

ABBREVIATIONS
 1—Powerglide model available at extra cost
 †—Model 400, 3.54 standard

(c)—IEL .105 in.; IEH .120 in.
Cs—Collapsible spacer
Fire—Firestone Tire and Rubber Co.
gc—B. F. Goodrich Co.

Gy—Goodyear Tire and Rubber Co.
Hyp—Hypoid
Int—Integral with body

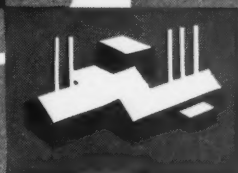
No—No or None
SB—Spiral Bevel
SF—Semi-floating

Sol—Spicer Mfg. Div.
U.S.—United States Rubber Co.
Var—Various

BORG-WARNER

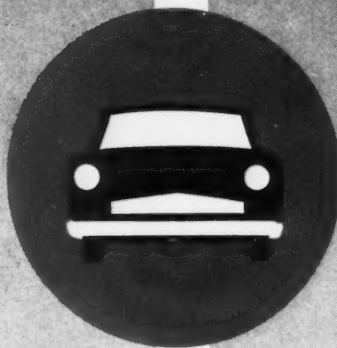


Creative Engineering

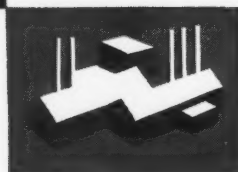
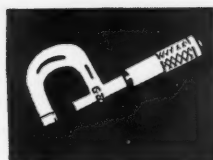


Volume Production

SERVING THE AUTOMOTIVE INDUSTRY



THESE UNITS FORM BORG-WARNER, Executive Offices, Chicago: BORG & BECK
 BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • CALUMET STEEL • DETROIT GEAR
 DETROIT VAPOR STOVE • FRANKLIN STEEL • INGERSOLL PRODUCTS • INGERSOLL STEEL • LONG MANUFACTURING
 LONG MANUFACTURING CO., LTD. • MARBON • MARVEL-SCHLEBLER PRODUCTS • MECHANICS UNIVERSAL JOINT
 MORSE CHAIN • MORSE CHAIN CO., LTD. • NORGE • NORGE-HEAT • PESCO PRODUCTS • ROCKFORD CLUTCH
 SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR • WARNER GEAR CO., LTD



BORG-WARNER was established primarily to serve the Automotive Industry. For 22 years it has been our privilege to work both with you and for you in creative engineering and in production. Your problems have been ours. To the original two Divisions on which Borg-Warner was founded, we have added twenty-one more—sixteen of them for the purpose of serving you more completely.

Borg-Warner creative engineers have earned the confidence of this great industry by the dependable performance of Borg-Warner products. Borg-Warner production facilities have become a great reservoir from which you draw so many automotive parts to help keep your assembly lines moving.

Under the capable leadership of Mr. C. S. Davis, now Chairman of our Board of Directors, this Company achieved world-wide recognition and industrial prestige far beyond the dreams of its founders.

The same basic principles of "sound engineering and economical production" continue to guide us. No Borg-Warner product will ever be offered to the industry until its serviceability and its dependability have been demonstrated.

By our ever-increasing investments in plants and facilities, we share your confidence in the future of America and the "American Way of Life."

To the great Automotive Industry we have been privileged to serve continuously since 1928 we feel a deep sense of obligation.

Roy L. Ingalls

President
BORG-WARNER CORPORATION



QUIETER OPERATION

SMOOTHER PERFORMANCE

BETTER SERVICE

LONGER LIFE



For more than 35 years the Automotive Industry has
found you can always depend on clutches by

BORG & BECK®

For that vital spot where Power takes hold of the load!



The Standard Clutch—A Product of Borg-Warner

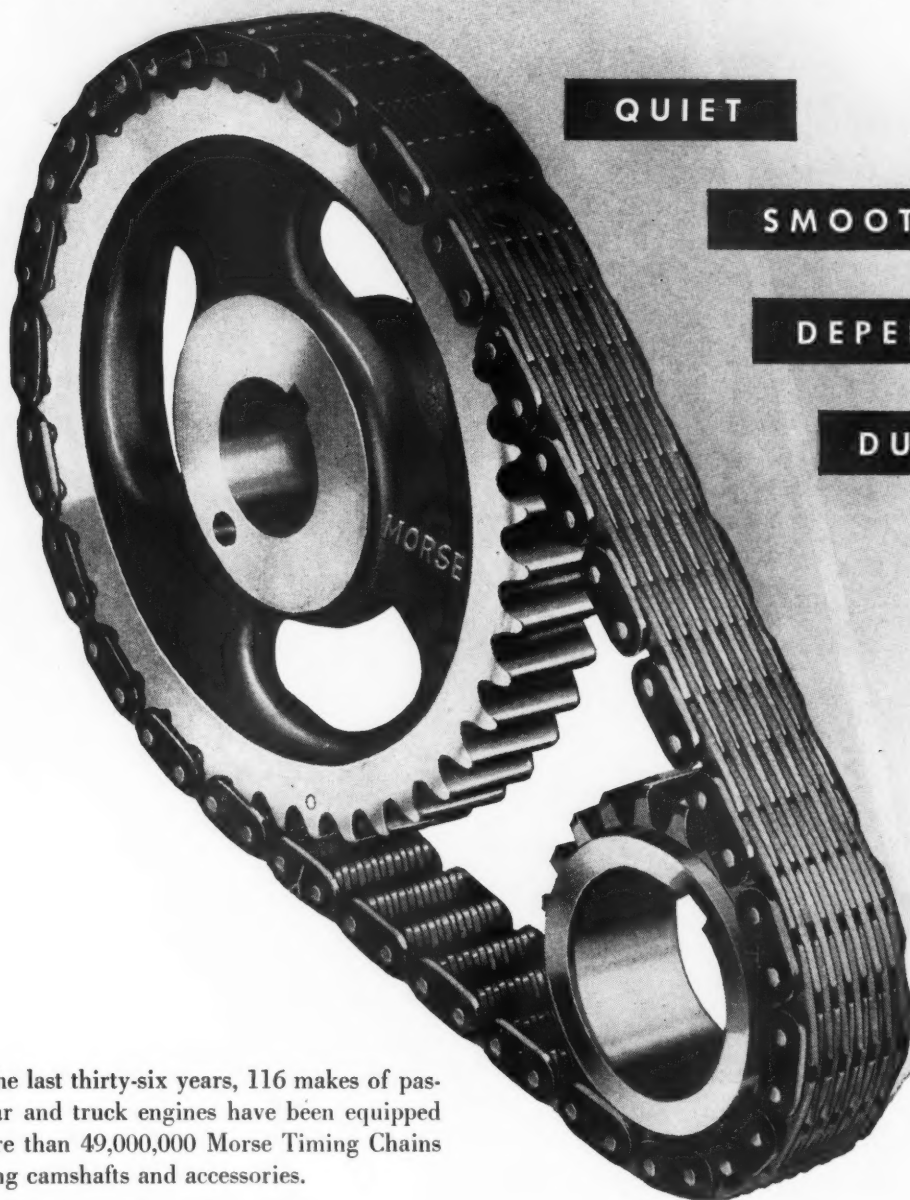
BORG & BECK Division



Borg-Warner Corporation
Chicago, Illinois

MORSE TIMING CHAINS

THE ORIGINAL EQUIPMENT LINE . . .



QUIET

SMOOTH

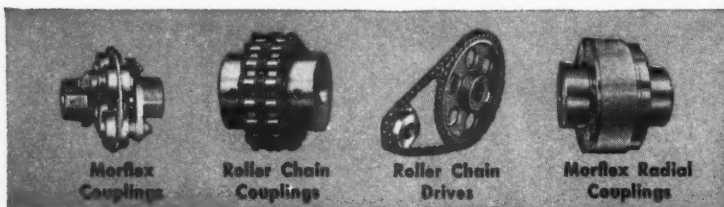
DEPENDABLE

DURABLE

During the last thirty-six years, 116 makes of passenger car and truck engines have been equipped with more than 49,000,000 Morse Timing Chains for driving camshafts and accessories.

Distributed Through

BORG-WARNER SERVICE PARTS CORP.

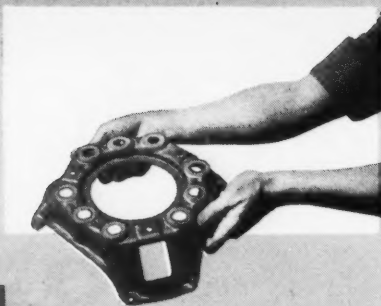


MORSE CHAIN COMPANY
DETROIT 8, MICHIGAN

MORSE

MECHANICAL
POWER TRANSMISSION
PRODUCTS

when it comes to



STAMPINGS

for volume production...

you can depend on the equipment and experience of...

Ingersoll PRODUCTS

DIVISION OF BORG-WARNER

This Borg-Warner Division is servicing some of America's largest automotive producers with these and similar products:

Automobile body stampings... tail gate assemblies... fenders... door assemblies... stampings for automatic transmissions... clutch covers... clutch levers... clutch plates... tapered discs for truck wheels.

Also, heat treated parts such as stabilizer bars and bumper bar supports.

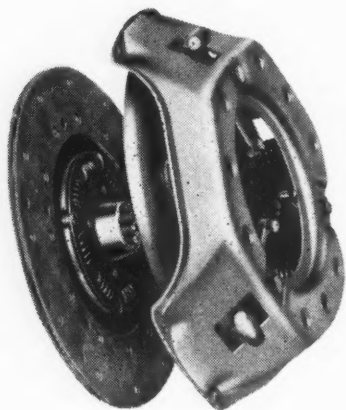


Ingersoll PRODUCTS DIVISION
Borg-Warner Corporation

310 South Michigan Avenue • Chicago 4, Illinois
Plants: Kalamazoo, Mich.; Chicago, Ill.



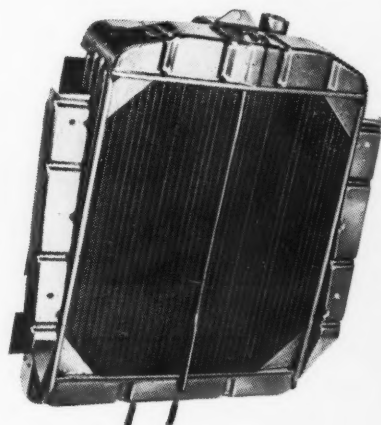
LONG clutches



Long clutch reputation has been built on quality and dependability . . . sound engineering and specialized manufacturing techniques. Since 1922, the leading makes of cars, trucks, buses and tractors have been equipped with Long clutches. They are available in a wide range of sizes and torque capacities.

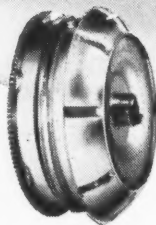
LONG radiators

Whether your radiator application is standard or special, Long engineers will gladly assist you in balancing the system for maximum heat exchange benefits. Long engineering experience spans millions of automotive radiator units installed as original equipment.



LONG torque convertors

For your automatic transmission. High performance—with torque multiplication of better than 2 to 1. Low manufacturing cost—fabricated almost entirely from stampings.



LONG

LONG MANUFACTURING DIVISION
BORG-WARNER CORPORATION
DETROIT 12, and WINDSOR, ONTARIO

FOR MORE THAN 40 YEARS

a dependable and experienced source for manufacturer and jobber



- AXLE SHAFTS • TRANSMISSION GEARS •
- RINGS AND PINIONS •
- DIFFERENTIAL CASES AND
INTERNAL PARTS •
- CYLINDER HEADS •

WARNER AUTOMOTIVE PARTS

division of Borg-Warner Corporation

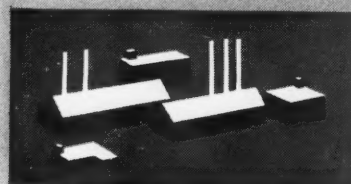


Auburn, Indiana • Detroit, Michigan

VISION
ON
TARIO

RY, 1951

19 of the 24



BORG-WARNER DIVISIONS

produce for the **AUTOMOTIVE INDUSTRY**

BORG & BECK—Clutches for Passenger Cars, Trucks and Tractors.

CALUMET STEEL—Structural Tubing and Special Automotive Jack Bar Steel; Small Angles for Auto Seats; Merchant Bars.

DETROIT GEAR—Automatic Transmissions for Passenger Cars; Truck and Bus Transmissions; Gear and Precision Parts for Passenger Cars, Trucks and Aircraft.

FRANKLIN STEEL—Structural Tubing and Special Automobile Jack Bar Steel; Spring Steel Bumper Bar Supports; Small Angles for Auto Seats; Merchant Bars.

INGERSOLL PRODUCTS—Tapered Steel Discs for Truck Wheels; Automotive Stampings; Seat Frames; Bumper and Stabilizer Bars.

INGERSOLL STEEL—Clutch Discs and Specialty Alloy Steels for Automotive use.

LONG MANUFACTURING—Clutches and Radiators for Passenger Cars, Trucks, Buses and Tractors; Oil Coolers for the Automotive Industry.

LONG MANUFACTURING, LTD.—(Canada). Clutches and Radiators for Passenger Cars, Trucks, Buses and Tractors; Oil Coolers for the Automotive Industry.

MARBON—Adhesives for Bonding Rubber and Synthetic Rubber to Metal and other Materials.

MARVEL-SCHEBLER PRODUCTS—Carburetors for Automobiles, Trucks, Tractors, Airplanes, Motorcycles, Marine and Industrial Engines.

MECHANICS UNIVERSAL JOINT—Universal Joints for Passenger Cars, Trucks and Aircraft.

MORSE CHAIN—Automotive Timing Chains and Sprockets.

MORSE CHAIN, LTD.—(England). Automotive Timing Chains and Sprockets.

PESCO PRODUCTS—Superchargers for Trucks, Buses and Heavy Duty Equipment; Hydraulics for Lift and Dump Trucks.

ROCKFORD CLUTCH—Truck, Tractor, Agricultural Implement and Industrial Clutches; Power Take-Offs for Gasoline and Diesel Engines; One-Way (Free Wheeling) Clutches.

SPRING DIVISION—Mechanical Precision Springs for the Automotive and Aircraft Industries; High Production Plain and Heat-Treated Stampings; Special Clutch Discs; and Precision Flat and Belleville Springs.

WARNER AUTOMOTIVE PARTS—For Replacement Purposes—Ring Gears and Pinions; Differential Cases; Differential Internal Gears and Spiders; Axle Shafts; Cylinder Heads and Cast Iron Parts; Transmission Gears for Passenger Cars, Trucks and Tractors; Power Take-Offs.

WARNER GEAR—Automatic Transmissions for Passenger Cars; Standard Transmissions for Cars, Trucks, Buses and Tractors; Overdrive and Free Wheeling Units for Passenger Cars; Synchronizer Units for Passenger Cars and Trucks; Parking Brake Assemblies.

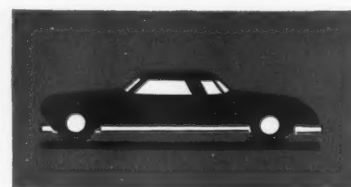
WARNER GEAR, LTD.—(Canada). Synchronizer Units.

Two other Borg-Warner Divisions serve in Automotive Parts Distribution:

BORG-WARNER INTERNATIONAL—Export Sales of Automotive Parts

BORG-WARNER SERVICE PARTS—U. S. Distribution of Automotive Service Parts

19 of the 20



MAKES OF PASSENGER CARS

are equipped with one or more

BORG-WARNER PRODUCTS

*Engineering makes it work
Production makes it available*

BW



Jobber Service . . .

Continued from Page 60

war. We are sitting on a gigantic powder keg and no one is sure if or when the fuse will be lighted.

The resulting Arms Program which is now beginning to shift out of low gear will of course affect many, many lines in our industry. Manpower shortages will become serious as the war plants drain off skilled mechanics, and the automotive industry, as a whole, is certain to be hard hit. Even though the Administration may not curtail production of automobiles by law, government allocations of strategic materials plus the manpower shortages which can already be felt will force substantial cutbacks by mid-1951. However, the American public moves on wheels and, although the actual slogan "Care for Your Car for Your Country" may not be heard in 1951, we can be sure that the principles of this slogan will be observed. We'll have to "Keep 'Em Rolling," and the parts and equipment necessary to do this job will have to be supplied to us. It, therefore, becomes a part of our job to make sure that our suppliers of parts and equipment are able to turn out a constant stream of the supplies necessary to keep the nation's automobiles (old and new) in good running order.

As in World War II, transportation will be a vital part, not only of our every day life, but of war production. Private transportation is necessary in order that men and women may get to their jobs and it is going to take eternal vigilance and the best brains of the industry to see that sufficient material is available to take care of these needs. If we are successful in this, and surely through the costly lessons learned during World War II we will be successful, the automotive wholesaler is going to be in a position to do the kind of a job he is capable of doing.

Again the slogan, "Get It From Your Jobber," will be taking on new meaning and I am confident that the automotive service accounts and the car driving public will find the wholesaler doing the kind of a job that they have learned to expect.



Best Market In Years For LECTROSEAL TIRE REPAIRS

★ Not since the Japs surrendered have American motorists taken such care of their tires as they do today. Threat of sudden shortages and controls has made them *extra* "tire conscious."

It's your best chance in years to build a lasting, profitable tire repair business with Bowes "Seal Fast" LECTROSEAL... the compact, efficient unit that permanently seals holes and breaks in tread or sidewall, and brings your customers back. Built-in thermo-switch and automatic timer assure perfect results every time. LECTROSEAL repairs are safe, dependable, profitable.

You'll pump more gas, sell more T B A, if you *also promote complete tire service*. Ask your Bowes "Seal Fast" distributor to show you how... or write direct for full information.

SET UP A COMPLETE TIRE AND TUBE REPAIR DEPARTMENT

There's real money in tire and tube repair... by using the tested Bowes "Seal Fast" method. Bowes provides the finest repair materials and offers on-the-spot training that makes you an expert tire repairman. Get *all* the facts!



BOWES "SEAL FAST" CORPORATION
INDIANAPOLIS 7, INDIANA

newscene . . .

MEWA

Motor and Equipment Wholesalers Assn. held its annual National Convention in Chicago, Dec. 1 and 2.

In an address to the assemblage, MEWA's president, James C. Parker, stressed inflation as the greatest problem facing all businesses today. He emphasized that

wholesalers must be ready to meet the waves of changes which will be coming along.

B. W. Ruark, MEWA General Manager, explained the Federal Trade Commission's actions against manufacturer and seller groups and put to rest any fears wholesalers may have had about the legality of functional discounts, by quoting from a letter



James C. Parker, President of M. E. W. A. addressing the convention

AGAIN-

National
GARAGE TOOLS

LEADS

THE FIELD



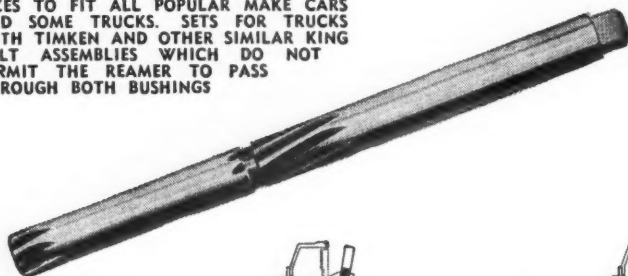
**ODDS 15 to 1 . . .
AND YOU CAN'T LOSE!**

National
GARAGE TOOLS

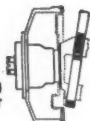
Keep the Job in Your Shop with KING BOLT BUSHING REAMERS

For the cost of one king bolt bushing reaming job sent out, you can pay for a National King Bolt Bushing Reamer which will handle at least 15 jobs, and after resharpening, 15 or more additional jobs. You save dismantling time, transportation time, waiting time and remounting time by doing the job in your own shop . . . this means increased profits and faster operation for you. And with National reamers, you can't go wrong—the job is simple, easy, and quickly done.

SIZES TO FIT ALL POPULAR MAKE CARS
AND SOME TRUCKS. SETS FOR TRUCKS
WITH TIMKEN AND OTHER SIMILAR KING
BOLT ASSEMBLIES WHICH DO NOT
PERMIT THE REAMER TO PASS
THROUGH BOTH BUSHINGS



FIRST OPERATION
Reaming upper bushing
while piloting in lower
bushing.



SECOND OPERATION
Reaming lower bushing
while piloting in upper
bushing.



TOUGH TOOLS

FOR TOUGH JOBS

NATIONAL
MACHINE AND TOOL CO., INC.
JACKSON, MICHIGAN
U. S. A.

Jobber Association

Trade association executives representing Automotive Wholesaler Associations from almost every state of the United States and Canada met in Chicago, Nov. 30, to discuss their problems.

Arrangements were completed to form a permanent organization. Nathan M. Roberts, executive secretary of the Automotive Wholesalers Association of Alabama, Montgomery, Ala., was elected the 1951 chairman.

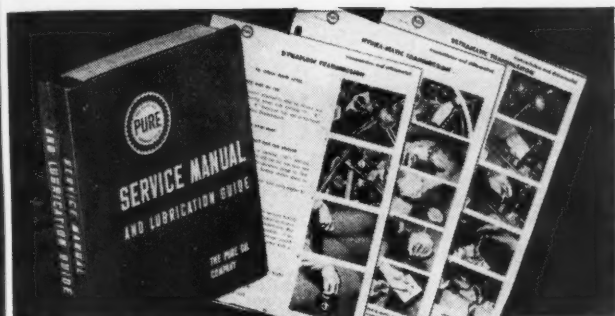
Forty-five executives attended the meeting.

MEMA

The annual meeting of the Motor and Equipment Manufacturers' Assn. was held in Chicago, Dec. 4 to 8. Featured speaker was Thomas J. Donegan, Special Assistant to the United States Attorney General.

(Continued on page 110)

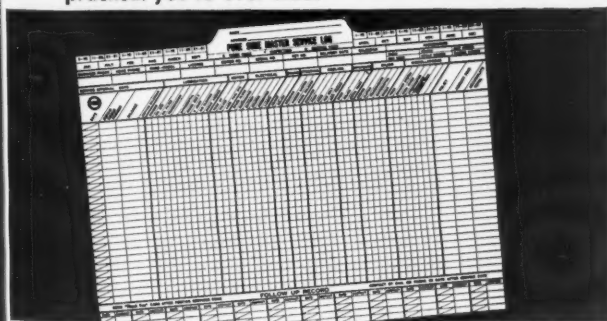
"That new Sure Feeling" is for Car Dealers too!"



Pure Oil's Service Manual, containing famous illustrated step-by-step service procedures, is yours if you stock Pure Oil lubricants.



So are Pure Oil's famous under-chassis and under-head lubrication charts—the simplest and most practical you've ever used.



Car dealers themselves designed these business-building record forms. Pure Oil supplies them to you at no cost.

NOTE: Since its introduction, Premium Quality-plus Purelube has met all requirements where "heavy duty" oil is recommended by the car manufacturer.



Find out now how the Pure Oil Plan can help you build business in 1951

Here's a *complete* program of sales tools and service guidance to help your men do their jobs better—and more *profitably* for you.

It includes on-the-job service guides and lubrication charts—to enable your men to lubricate various makes and models properly.

It includes proven service record forms, sales and advertising helps, that aid your men in selling more lube jobs and feeding more business to other service departments.

It's all yours, *free*, when you stock Pure Oil lubricants!

See your Pure Oil Salesman for complete details or phone your local Pure Oil office today about this *proven business-building plan*.

THE PURE OIL COMPANY • General Offices: Chicago

In addition to premium quality Purelube, the Pure Oil line includes high quality oils for your own house-branding, approved automatic transmission oils, gear and chassis lubricants, tires, batteries and accessories.

**Be sure
with Pure**



Purelube

THE SURE MOTOR OIL

newscene . . .

NSPA

The National Standard Parts Association at their Convention held in Chicago, Dec. 1 and 2, elected the following officers for the coming year: President, Charles C. Tapscott of McQuay-Norris; Senior Vice President, Fred S. Roberts, of Phelps-Rob-



Charles C. Tapscott accepts the gavel from C. O. Kleinsmith, retiring President

BURD Super Hi-Speed PISTON RINGS



Faithful performers where oil control is a major problem. High flexibility of the cast iron ring assures conformance with cylinder walls. Steel segments installed below the cast ring mean maximum wiping action without excessive wear. They're engineered to whip tough jobs. Install them with confidence!

BEST COMBINATION FOR OIL CONTROL
Here's a great combination for keeping customers car happy. Install Burd Super Hi-Speeds—then take the extra step for even better oil control—install Burd Valve Packing. A sensible investment for car owners—an extra profit operation for you. See your Burd Jobber or write us for details.

BURD SUPER HI-SPEED OIL RINGS + BURD VALVE PACKING

BURD VALVE PACKING

Take care of worn valve guides whenever you re-ring. Install Burd, the original top-of-guide Valve Packing. Keeps oil out of the firing chamber; keeps oil in the guide. Easy to install—good for your customers—profitable for you.



BURD PISTON RING CO. ROCKFORD, ILLINOIS

PISTON RINGS
PISTON SKIRT EXPANDERS
BURD DE-GLAZING TOOL
GET THEM FROM



VALVE GUIDES
VALVE PACKING
HaDees HOT WATER HEATERS
YOUR JOBBER

erts Corp.; junior vice president, Charles A. Klaus, of Maremont Automotive Products.

Nearly 1200 wholesalers and manufacturers attended the convention sessions, the largest membership gathering in the association's history.

Five wholesalers and three manufacturers were elected to the board of directors. They are L. W. Barnett, Cogdell Auto Supply Co.; H. Miller, Womwell Automotive Parts Co.; F. J. Mitchell, Guaranty Motor Co.; E. E. Pike, Utah Auto Parts Co.; J. K. Wilkinson, Pomona Motor Parts.

The manufacturers are Fred S. Durham, Jr., Bonney Forge & Tool Works; L. M. Olson, R. M. Hollingshead Corp.; Ira Saks, Accurate Parts Mfg. Co.

At each of the sessions key men in the service industry presented their views on specific problems common to all.

Chicago Show

Although automobile dealers in Detroit Philadelphia, St. Louis and other places have dropped plans for automobile shows this year, Chicago dealers are proceeding with their plans for what they hope will be the largest automobile show in the history of the industry. It is scheduled for Feb. 17 through 25 under auspices of Chicago Automobile Trade Association. All automobile manufacturers and many truck builders have agreed to cooperate and exhibit space sold totals more than
(Continued on page 112)

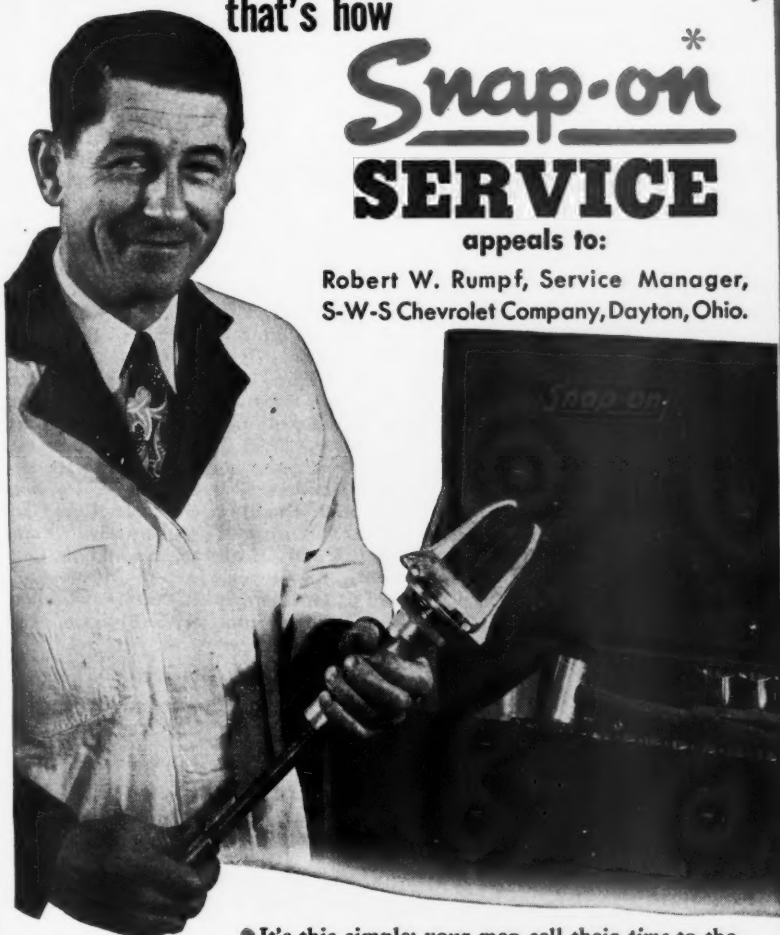
PP I've known and used
Snap-on Tools for years
 ... they're the kind it
 takes to do good work

that's how

Snap-on
SERVICE

appeals to:

Robert W. Rumpf, Service Manager,
 S-W-S Chevrolet Company, Dayton, Ohio.



● It's this simple: your men sell their *time* to the shop. You sell shop-time to your customers. You know—every mechanic knows—a man can do more and better work with less sweat, when he's got the *right* tools. So he earns more. The shop makes more profit and more friends. This isn't just pretty "theory." Thousands of service shops—tens of thousands of mechanics—have boosted income 20 to 40 per cent after equipping with Snap-on Tools. They're engineered for the men who make a living with tools. Your Snap-on man brings these finest of tools into your shop... right to the bench... where a man can select and *try* them on the job. No guessing. No wasting time. For 30 years, Snap-on has offered "the time-saving way to buy time-saving tools." NEW 104-page catalog ready. Write for yours.



SNAP-ON TOOLS CORPORATION

8036-A 28th Avenue
 Kenosha, Wisconsin

*Snap-on is the trademark of
 Snap-on Tools Corporation.

MEN LIKE THESE—800 STRONG
give Snap-on service
 COAST-TO-COAST



Hollis Browne
 Minneapolis Branch



Clarence Werner
 Newark Branch



Raymond A. Baum
 St. Louis Branch



Lyle E. Nelson
 San Francisco Branch



E. S. Best
 Chicago Branch



Charles E. Todd
 Philadelphia Branch



Morris Silverleib
 Boston Branch



Robert E. Adams
 Toledo Branch



S. E. Bertram
 Indianapolis Branch



H. L. Douglas
 Richmond Branch



Laverne C. Hollenbeck
 Baltimore Branch



Jarvis S. White
 New Orleans Branch



P. L. Biggers
 Jacksonville Branch



Hy Ness
 Montreal Branch



A. Kimmerte
 Buffalo Branch

newscene . . .

150,000 sq. ft., a new record. The 1951 show, like last year's, will be held at the International Amphitheater and again will include two one-hour pageants daily. Attendance at the 1950 show was 478,000 in spite of bad weather and it is expected that this year a new record will be set.



Members of the joint operating committee of the 1950 Automotive Service Industries Show presented the committee chairman, B. G. Close, of King Quality Products Co., St. Louis, a plaque in recognition of his services as the show chairman. The presentation was made in the committee headquarters room during the show at Navy Pier, Chicago. Present at the ceremony were, above, left to right, R. L. Smith, Pyrene Mfg. Company; C. P. Brewster, K-D Mfg. Co.; Don H. Teetor, Perfect Circle Co.; A. B. Coffman, Show Manager; Ruth Hall, his assistant; Frank G. Stewart, Standard Automotive Supply Co.; Burt G. Close, 1950 JOC Chairman, King Quality Products Co.; Erle A. Henderson, Henderson Bros.; A. E. Pouliot, National Bushing & Parts Co.; Hal Miller, Womwell Automotive Parts Co.; W. M. Hudgins, Koochook Co.; Frank K. Meyer, Jos. F. Meyer Co.; and C. O. Kleinsmith, National Carbon Div. of Union & Carbide Co.



ECHLIN *Ignition*
A PRODUCT OF

CONTACTS
COILS CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY, Dept. MA, 220 EAST ST., NEW HAVEN 5, CONN.

Accessories Short

Shortages are beginning to appear in some accessory lines, particularly radios and heaters. Both these items contain sizable amounts of scarce copper so that the shortage may be a continuing one. Another field where shortages are apparent is in items for late model cars particularly 1951s because a large proportion of components was thrown into new car production, leaving a smaller reserve for service parts.

TBA

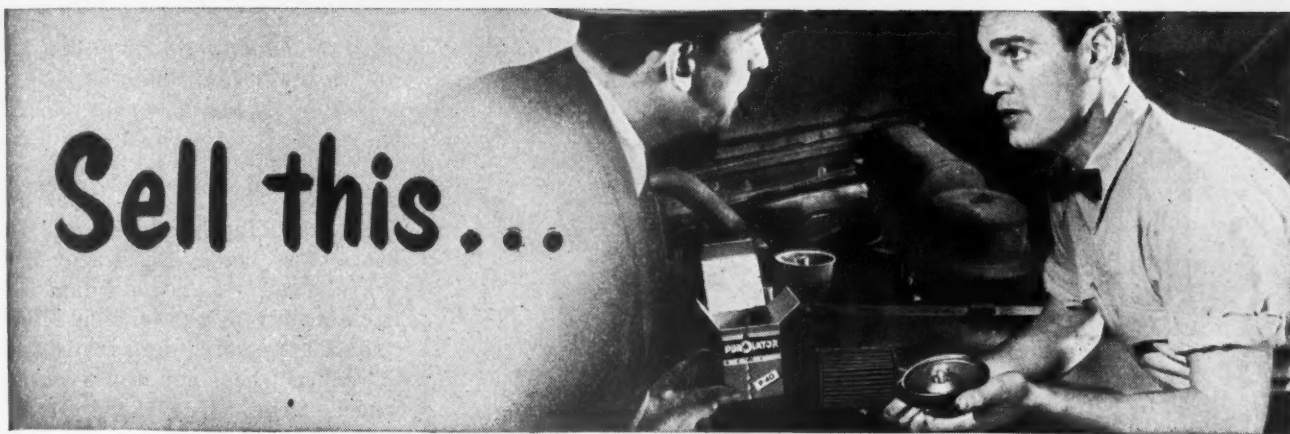
Attendance at the annual meeting of the Oil Industry, Tire, Battery and Accessory group was the largest on record. The meeting held in Chicago, Dec. 4 and 5, consisted of morning and afternoon sessions and a luncheon and cocktail party and dinner.

Talks by recognized authorities were given on subjects timely and significant to the industry.

Do this...



Sell this...



Simple 1...2 brings home the bacon...

There's money in oil filters. Plenty! Just check every car that comes in for servicing. If the filter element is clogged, mucked-up with sludge and dirt, show it to the motorist. 9 times out of 10, according to a recent survey, he'll buy a clean Purolator* Micronic Oil Filter refill... fresh oil, too.

Be sure it's a Purolator Micronic* refill you sell. Not only is it *best* advertised, it's *best* engineered. The specially designed refill unit takes out abrasive, engine-wrecking particles, so tiny they're measured in microns (.000039 inch); its accordion-type construction gives up to 10 times the filtering area; it *leaves in* the important additives some filter elements *take out*.

So push Purolator... (1) use Purolator tie-in material... (2) stock to sell the cars that call. (You'll be surprised to see how small an inventory this takes).

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey, and
Toronto, Ontario, Canada

*Reg. U. S. Pat. Off.



1951 Plymouth

Improvements in driving and riding qualities feature the new line of Plymouth cars. Changes in body lines and refinements in the interior have been designed into the 1951 models. A new grille, redesigned front fenders and hood, a wider windshield and a larger rear window contribute to the improved appearance. Nar-



JOHNSON CAMSHAFT BEARINGS

IMMEDIATE service on complete sets of Johnson camshaft bearings for all popular makes of cars, trucks and buses is now available. Like every other item in the Johnson line, our camshaft bearings are of the highest quality possible, made to precise dimensions, ready for immediate installation.

When you buy, sell or install Johnson bearings you are assured of the maximum in smooth, quiet, economical performance. You cannot buy better bearings at any price. Write today for a copy of our latest catalog.

Stocks carried in all principal cities.

Sell and install in **COMPLETE** sets—saves your customers money . . . protects your reputation.



rower windshield pillars together with the wider windshield provide additional lateral vision.

A new shock absorber, called the Oriflow, is used on the 1951 cars. It is said to provide a smoother ride on all types of roads, reducing harshness and vibration on boulevard, washboard gravel, and rough macadam. It is claimed to be particularly effective on extremely rough roads, and to reduce wheel hop and steering wheel "fight."

Basic construction of the Oriflow shock absorber is similar to that of the previous shock absorber, being composed of a piston rod and piston, a cylinder, a base valve in the cylinder, and a reservoir. The significant difference between the Oriflow and the previous unit, lies in the method of controlling fluid flow through the piston and the base valve.

In the Oriflow shock absorber, the restrictive passages are of a long, small diameter, tubular nature in which the resistance to fluid flow increases much more gradually with respect to the fluid or piston velocity. Consequently, resistances at mid-stroke far in excess of those possible in the previous shock absorber can be utilized without incurring undesirable ride harshness and vibration.

It is in this part of the stroke, after the initial high accelerations have been reduced, that damping is most effective in control of the suspension system and can do its work without the passengers being aware of it.

Windshield wipers are now electrically operated, and are of the single-speed, self-parking type.

(Continued on page 116)

In 1951

UP Car Repair Business Skilled Labor Supply DOWN

Hurry! Buy Labor Saving, Cost-Cutting
Shop Equipment *NOW*

*Pay for it with
Commercial Credit's*

AEP
AUTOMOTIVE EQUIPMENT PLAN

AS 1951 moves on, new cars will be *fewer*, old cars and trucks will get *older*. America's cars and trucks must be kept in good repair. That spells DUTY and OPPORTUNITY for car repair shops. But it is *NOT* safe to assume that skilled help will be plentiful.

The obvious answer is modern, labor saving, cost-cutting shop equipment. See your jobber now. Order while you can get what you want and need. Make a small down payment and

COMMERCIAL CREDIT will pay the balance. Repay us monthly out of extra volume and profits your new equipment will produce.

*The Best Equipped Shop Gets
the Profitable Business*

Make your shop LOOK like it is equipped to handle the bigger and higher profit jobs and you'll get more of them in '51. And you'll be able to handle them well . . . with the same floor space . . . and the same or less help . . . if you take full advantage of labor saving, cost-cutting modern shop equipment.

BUY IT ON TIME

*Ask your
jobber about*

AEP

ONE CONTRACT . . . ONE COST . . . INSURANCE INCLUDED

**COMMERCIAL CREDIT
CORPORATION**

A subsidiary of Commercial Credit Company, Baltimore . . .
Capital and Surplus over \$100,000,000 . . . more than 300
offices in principal cities of the United States and Canada

1951 Plymouth . . .

Continued from Page 114

A pressure-vent radiator cap, which has been added as standard equipment, permits the cooling system to operate at atmospheric pressure during normal driving conditions. Under high-load, high-temperature driving conditions, the new radiator cap provides a pressurized cooling system to allow high coolant temperature without boiling or loss of anti-

freeze.

All Plymouth engines now have a built-in by-pass cooling system permitting water circulation and resulting in more uniform temperature throughout the engine during the warm-up period. The new system consists of a passage in the cylinder head and block providing direct access to the water pump, and a choke-type thermostat to

regulate coolant flow to the radiator.

The generator output has been raised to 45 amperes, an increase of five amperes, providing greater electrical capacity for the operation of car accessories.

Interior refinements feature a new instrument panel with a more convenient grouping of panel controls, newly shaped instruments and improved coloring and lettering for easier checking while driving.

Anything can happen

WHEN MOTOR MOUNTS GO BAD

CLUTCH CHATTER



Soft deteriorated rubber or broken motor mounts prevent proper clutch linkage resulting in clutch chatter.

ENGINE VIBRATION



Motor mounts are designed to absorb engine vibration and road shock. When mountings "go bad" the vibration is transmitted to the body and chassis.

DIFFICULT GEAR SHIFTING



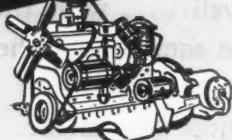
Difficult gear shifting can be a real headache to the garage mechanic. Faulty mounts frequently cause this trouble.

STICKING GAS PEDAL



Sticking gas pedal occurs when the motor is out of alignment. Here again, new Armor-Flex mounts is the answer.

MOTOR MISALIGNMENT



Mountings hold the engine in its proper position to resist torque reaction. Broken mounts will throw the motor out of line.

Play it safe



Don't take the chance of losing a good customer. When a car with any of the above symptoms comes in for repairs, be sure to check the motor mounts. Install new live rubber Armor-Flex mounts wherever necessary.

Doan

MANUFACTURING CORP.

1761 LONDON ROAD • CLEVELAND 12, OHIO

PACKAGED AUTOMOTIVE REPLACEMENT PARTS

Roll Back

"Roll back all prices of commodities and services to Dec. 1, 1950, levels on a voluntary basis or mandatory ceilings will be imposed. This is the first overall pricing edict of the Economic Stabilization Agency and was issued under the label of fair "Pricing Standards." It set the pattern which the agency will follow in imposing any mandatory ceilings. The wholesale and retail trades were told that gross margins may not be increased above the June, 1950, level if net dollar profits before taxes are equal to or above the average for the period 1946-49. Nor may wholesalers and retailers increase prices on the basis of increased replacement costs. Margins may be added only to inventory cost actually paid.

Producers may not increase prices above Dec. 1 levels if profits before taxes equal or exceed those of the 1946-49 period. As to individual materials or services of a company operating on a profit above these general earning standards, prices of particular goods or services cannot be increased so long as they show a profit. However, if the product or service is not being sold at a profit, the price may be increased to (a) the amount necessary to make it profitable or (b) the increased cost by reason of labor and materials since June 24, 1950, whichever is less. The ESA said that any mandatory regulations, which are sure to follow these voluntary standards, will be issued on a base period ending not later than Dec. 1, 1950.



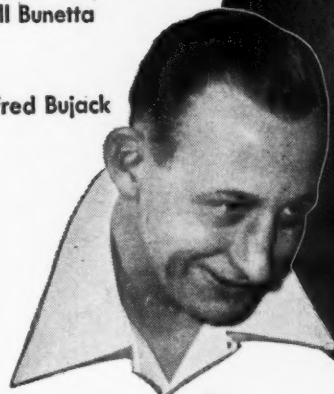
Bill Bunetta

Therm Gibson

Chuck O'Donnell



Fred Bujack



E & B Brewers, Detroit, Five-Man
World Match Game Bowling Champions
1949 ABC Team All-Events Winners



Lou Sielaff, Capt.



George Young

WINNING COMBINATIONS

**YOU
and
UNITED MOTORS
LINES**

To be a winner, a dealer must have something that people *want*—like the parts and products in the United Motors lines that are original equipment on the country's leading makes of cars, trucks and buses. Business from these *millions* of vehicles comes naturally to United Motors dealers, month after month, year after year. And each dealer is equipped with parts and service information that let him handle his share of the business most profitably. You and United Motors lines *can* be a *winning combination*. Talk to your United Motors distributor, or write directly to us.

UNITED MOTORS SERVICE

Division of General Motors Corporation
General Motors Building, Detroit 2, Michigan

DELCO Batteries
AC Gauges, Speedometers
and Rebuilt Fuel Pumps
SAGINAW Jacks
MORAINE Engine Bearings
DELCO Radio Parts
HYATT Roller Bearings

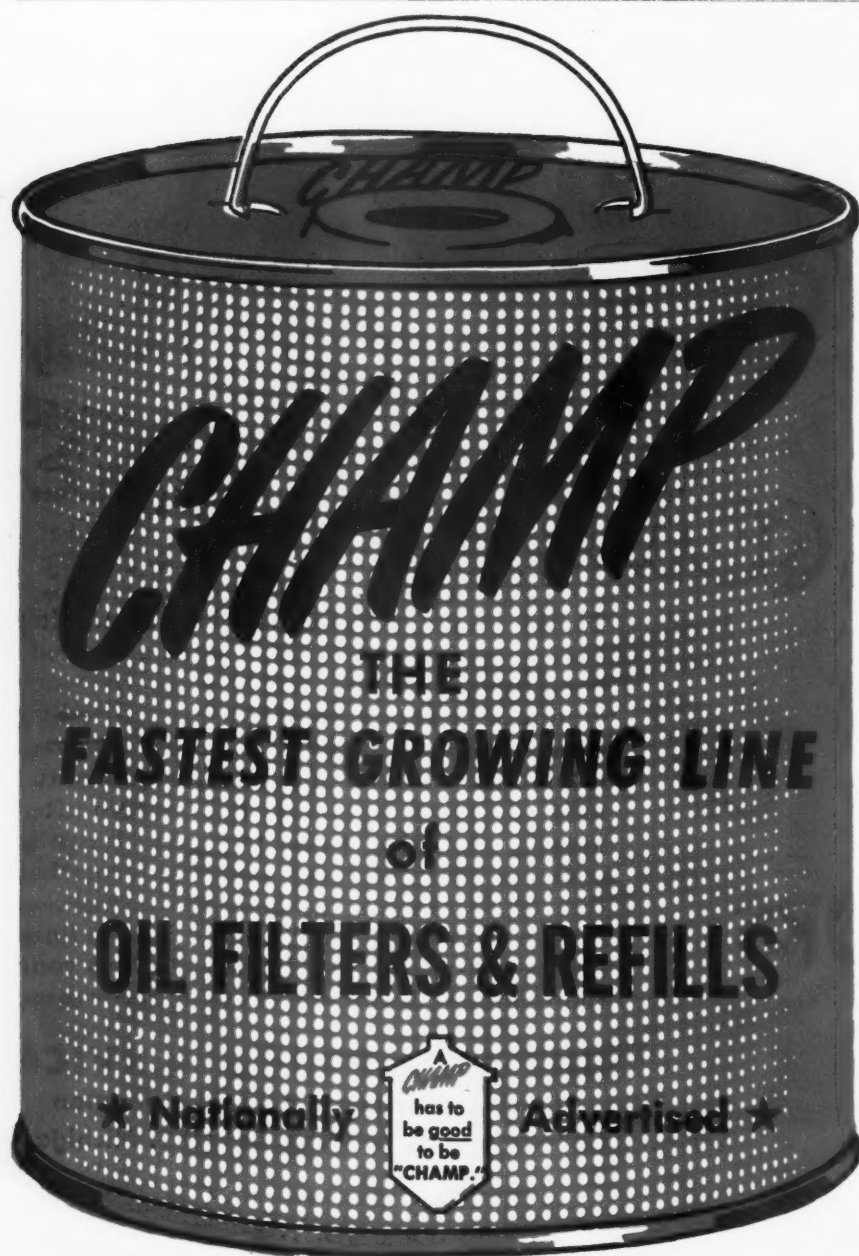
INLITE Brake Lining
HARRISON Heaters
GUIDE Lamps
NEW DEPARTURE
Ball Bearings
DELCO Shock Absorbers
MORAINE Gasoline Filters

HARRISON Thermostats
DELCO-REMY Starting,
Lighting and Ignition
KLAXON Horns
HARRISON Radiators
ROCHESTER Carburetors
DELCO Hydraulic Brakes



1951 Cadillac

Besides a number of styling changes on the 1951 Cadillac models, several important mechanical improvements are featured. A cone type reverse unit has been adopted on the Hydra-Matic, making possible a rapid shift into reverse. This permits the rocking of the car when in ice, snow or mud, and eliminates



CHAMPION LABORATORIES INC., MERIDEN, CONN., U. S. A.

ORDER FROM YOUR JOBBER

the need for a momentary pause before shifting the lever into reverse position.

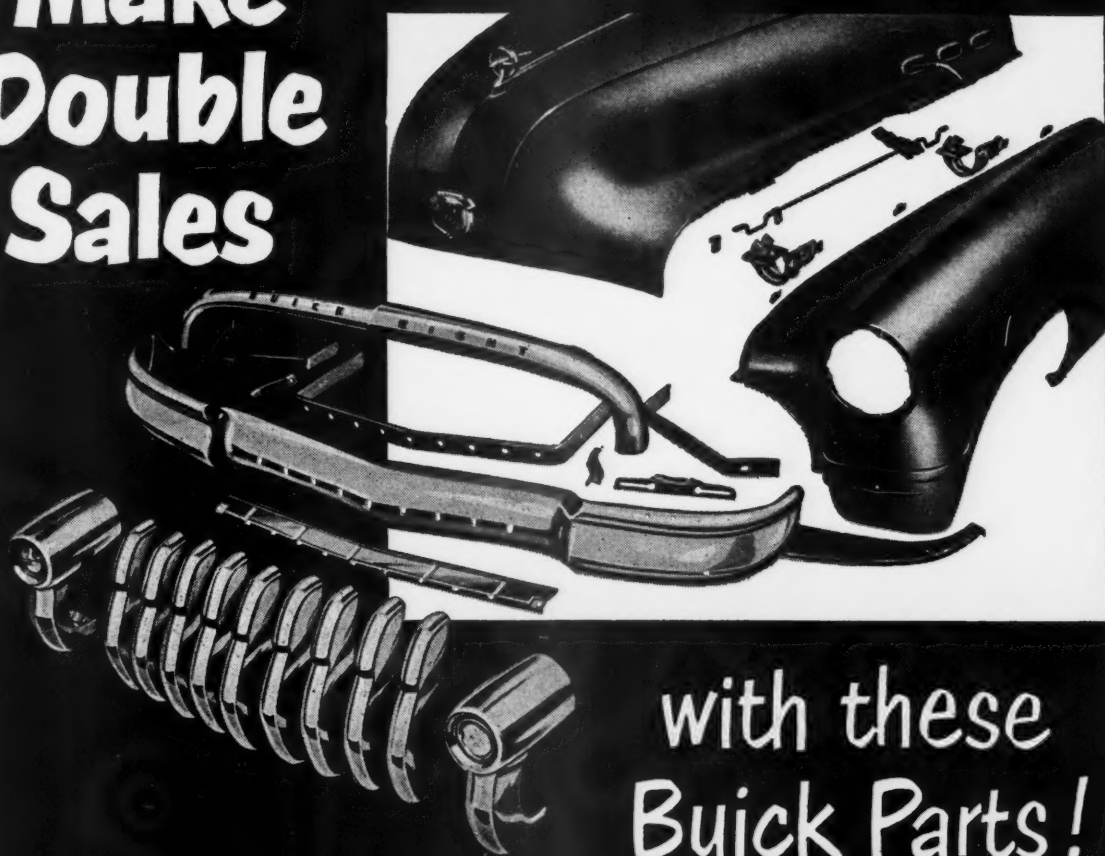
The smooth action is the result of a new mechanism which engages the reverse gear by means of oil pressure. The positive parking lock feature is retained, so that when the car is stopped, it is braked by placing the control lever in reverse position. The car will not roll forward or backward.

Engine improvements include a new precision balanced piston; an improvement in oil transfer from crankshaft to connecting rod to give more positive direction of oil to the piston pin and cylinder walls; redesigned valve guides to reduce possibility of carbon deposit on the valve stems; and a new choke control, said to improve economy and performance with the use of a modifier which provides the most suitable mixture ratios throughout the full range of car speeds and load conditions.

A brake mechanism improvement for 1951 features a self-centering brake shoe. This has been achieved by replacing the brake shoe anchor pin with a newly designed wedge-type anchor. The wedge automatically compensates for wear, centering the shoes within the drums accurately and consistently. When the brakes are applied, the centered shoes move the brake lining into contact with the drums at all points. This assures maximum braking effort with minimum pedal pressure.

Another of the mechanical improvements is in the shock absorbers, which now offer improved riding qualities, the manufacturer states, through a new valving arrangement.

Make Double Sales



with these
Buick Parts!

NEXT time you have a Buick body job in your shop, remember there's an easy way to do it faster—and make two profits instead of one.

Why spend a lot of time bumping out, straightening, soldering, filing, grinding and lining up—then bill for your labor alone?

Instead, you can remove the damaged part, put a new one on—and make a profit on both labor and parts. It's quicker. It gives the owner a better job. It lets you handle more jobs per day in the same

space. And you've made two sales instead of one!

Get your Buick sheet metal or body parts from your Buick dealer—his prices are right at the competitive level, and there's a full discount to the trade.

Matter of fact—you'll do better every time if you make the Buick dealer your first point of call for all Buick parts, every time. You'll find—

- Low competitive prices • Full trade discount
- Complete line of parts • Helpful information
- Handy one-stop service

Do a quicker
better job—



See your Buick dealer

with Buick parts

It Happened in 1950 . . . Continued from Page 41

Motors cut prices from \$40 to \$120 on new models . . .

APRIL 6. Ford hit 20-year high of 172,967 cars and trucks in March . . . **April 10.** Sun Oil Co. introduced "New Blue Sunoco" gasoline, which has a small quantity of tetraethyl lead . . . **April 14.** Nash announced its low-priced car, the Rambler . . . **April 24.**

Used car sales and prices bouncing skyward . . .

MAY 1. GM's April output of 313,909 cars and trucks set new monthly high . . . **May 4.** Chrysler strike ended with workers to get \$100 a month pensions . . . **May 6.** GM's first quarter sales of \$1.6 billion and net income of \$212 million were new highs . . . **May 9.**

Oldsmobile, Cadillac, and Nash took top three places in Mexican stock car race . . . **May 11.** Kaiser-Frazer's low-price car named the Henry J. . . . **May 23.** GM signed five-year contract with UAW . . . **May 24.** Passenger car tire prices hiked 2½ per cent . . . **May 31.** Johnny Parsons wins at Indianapolis.

JUNE 1. Chrysler strike cost over \$1.4 billion . . . **June 12.** Chrysler's Dodge Div. producing new hard top model . . . **June 15.** Studebaker and UAW signed five-year contract similar to GM pact . . . **June 20.** Crosley cut prices from \$63 to \$86 on all models . . . **June 22.** Studebaker to build \$5.5 million assembly plant in New Jersey . . . **June 23.** C. E. Wilson, GM president, predicted production of eight million cars and trucks this year . . . **June 26.** GM's Oldsmobile Div. to concentrate on eight-cyl Rocket engines . . . **June 28.** Korean war.

JULY 13. Firestone boosted original equipment tires prices 6 to 12½ per cent . . . **July 17.** War in Korea shot new automobile demand to new high.

AUGUST 4. Studebaker stopped building its New Jersey plant . . . **Aug. 16.** GM's Cadillac Motor Car Div. took over bomber plant near Cleveland to produce Army tanks . . . **Aug. 23.** BLS index rise, boosted GM wages five cents an hour . . . **Aug. 24.** Packard introduced 1951 cars . . . **Aug. 26.** Ransom E. Olds, 86, founder of the Oldsmobile and Reo companies died at Lansing, Mich. . . . Chrysler gave hourly-rated workers raise of 10 cents an hour, and boosted skilled workers 15 cents an hour . . . **Aug. 29.** Packard signed five-year agreement with UAW.

SEPTEMBER 1. Hudson gave seven-cent hour boost to workers . . . **Sept. 4.** Ford and UAW signed new five-year contract with eight cent an hour hike to hourly-rated workers, and 13 cent an hour boost to skilled workers . . . **Sept. 18.** Regulation W tightened, time payment balance shortened from 24 to 15 months . . . **Sept. 20.** Thompson Products to get assets of Perfect Circle Co. . . . **Sept. 21.** Nash raised 1951 prices 1½ to 5 per cent

(Continued on page 134)



... TO SPEED UP YOUR SERVICE WORK
... TO HELP YOU TURN OUT BETTER JOBS



No. 2784 4-Ton
Hydraulic Service Jack



No. 2782 2-Ton
Hydraulic Service Jack



No. 2767 1½-Ton
Hydraulic Quick Service Jack



No. 2711 1-Ton
Mechanical Service Jack



No. 2799 2-Ton
Adjustable Axle Support

In the shop, on the driveway and out on the road, you must have speedy, trouble-free lifting equipment to make money in the service business today.

For this, Ajax offers you the finest line of time-savers and profit-boosters your money can buy. In this dependable, time-proven "Coverage Line," you will find a jack for your every need.

Rugged, fast-acting hydraulic and mechanical service jacks, from 1 ton capacity to 4 tons, give you speedy, safe, efficient service whether it's one wheel you want to lift, or an entire end.

Ajax "Silver Horses"—famous, low-cost, heavy-duty, adjustable axle supports—release your valuable jacks for use on other jobs. Their large, stabilized bases assure the safety of your mechanics.

See the complete Ajax line at your Ajax Jobber or write for catalog.

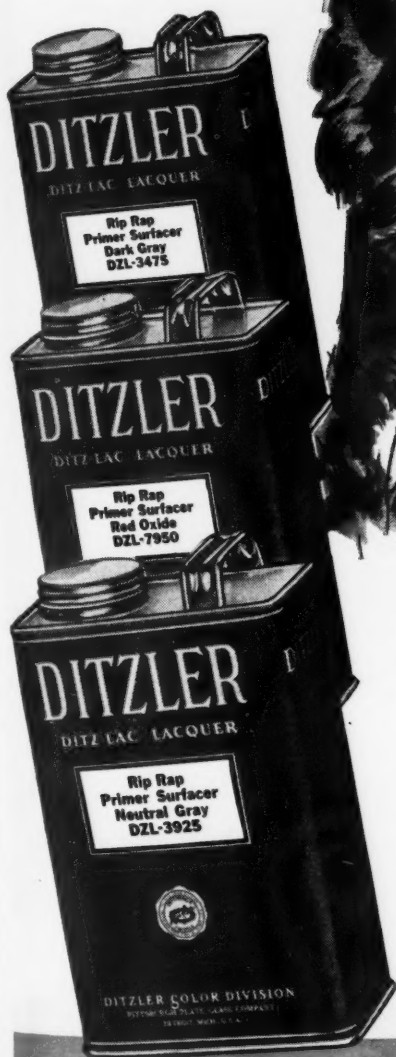
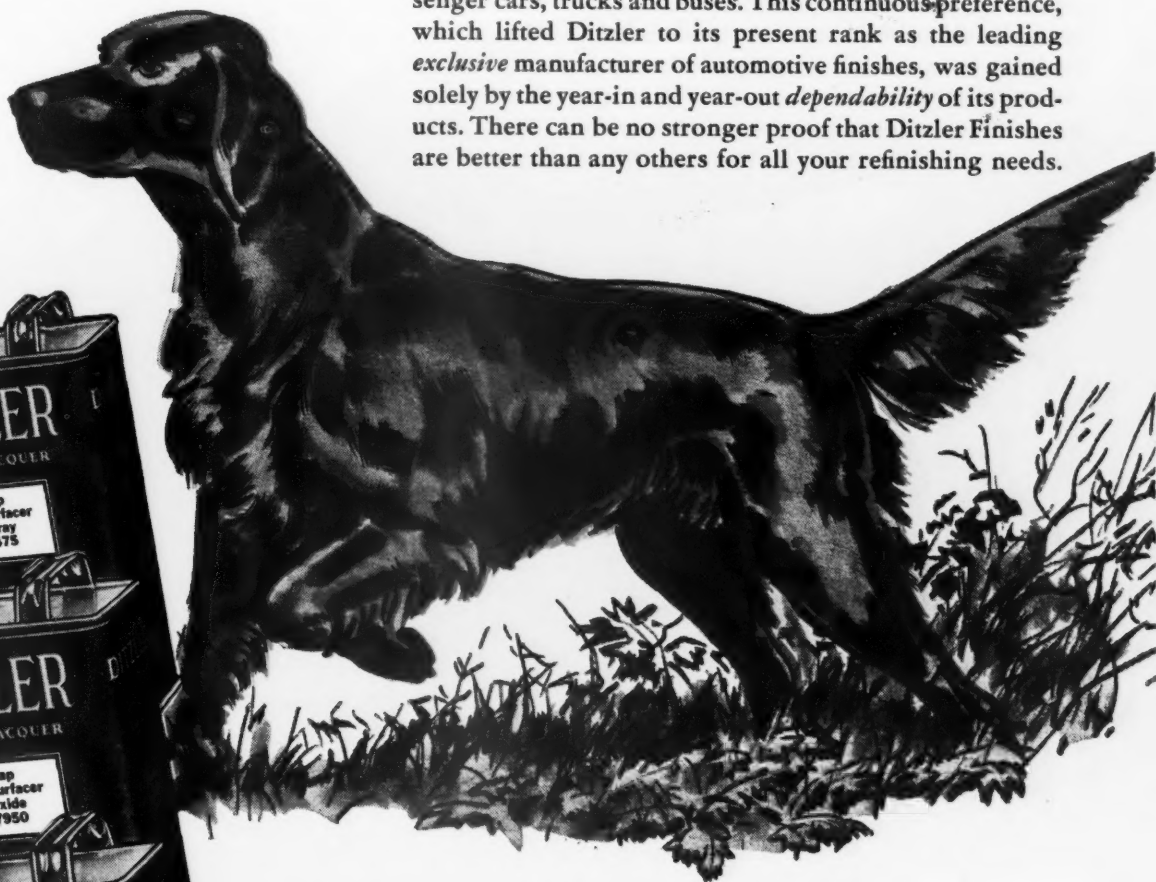
AJAX AUTO PARTS CO.
RACINE, WISCONSIN




AJAX—"THE COVERAGE LINE" OF FINEST QUALITY JACKS

Championship Class!

●The superior quality of Ditzler Finishes is best shown by their championship performance in the automobile industry. For nearly fifty years Ditzler Finishes have been preferred by most of the leading manufacturers of passenger cars, trucks and buses. This continuous preference, which lifted Ditzler to its present rank as the leading *exclusive* manufacturer of automotive finishes, was gained solely by the year-in and year-out *dependability* of its products. There can be no stronger proof that Ditzler Finishes are better than any others for all your refinishing needs.



3 Big Reasons Why Ditzler RIP RAP Is Better Than Other Primer Surfacer

●High solid content gives more film-forming materials—fewer coats are necessary.

●Sands easily and feathers out beautifully—no splitting or chipping at the edges.

●Extra-good holdout increases durability and keeps paint jobs looking better longer.

Ditzler Rip Rap is available in three popular colors—Dark Gray, Neutral Gray and Red Oxide—in easy-to-pour cans.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan

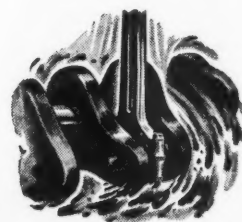


DITZLER

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Sell EXTRA PROTECTION against



"COLD WEATHER SLUDGE" IS EXTRA HARD ON ENGINES

Driving habits change in cold weather. People drive less . . . go shorter distances. Engines run colder. Oil sludges up faster . . . has trouble doing a good job of lubrication.

Now's the time to sell the extra protection of extra-clean oil—kept cleaner, longer, by exclusive Walker "3-Way Filtration." Walker alone offers "3-Way Filtration"—3-way motor protection against many different kinds of engine contamination . . . including water . . . from which sludge forms.

Of course oil has to be changed at specified intervals to protect against oil oxidation, dilution and deterioration. But in the critical period between oil changes, be sure your customers get all possible protection from "cold weather sludge"—the positive, predictable protection of exclusive Walker "3-Way Filtration."

WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WIS.

Oil Filters, Exhaust Silencers, Jacks, Lifts

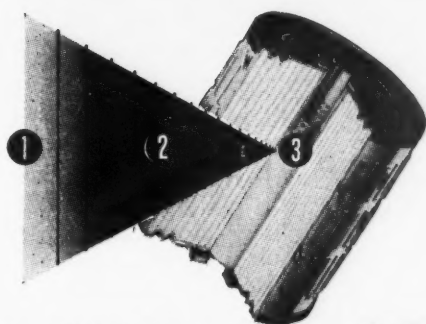


WALKER OIL

"COLD WEATHER SLUDGE"

EXCLUSIVE WALKER

3-WAY FILTRATION



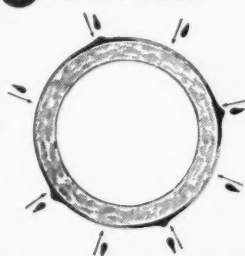
KEEPS OIL EXTRA CLEAN

between

OIL CHANGES

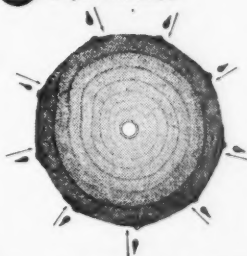
Here's why WALKER patented *Laminar** construction gives EXTRA PROTECTION

1 Surface Filtration



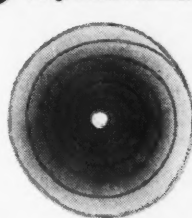
A double wrapping of wood cellulose dispersion strip around the basic filtering matrix provides surface filtration at each successive layer. Strip also disperses oil over entire surface of filtering medium.

2 Depth Filtration



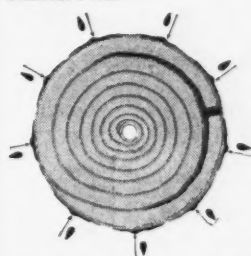
After passing through dispersion strip, oil seeps through filtering matrix—a uniform layer of pure wood cellulose fibres. Filtering action continues through successive layers of dispersion strip and matrix.

3 Progressive Filtration



As oil continues inward, each successive layer of the filtering matrix is finer, more compact ... selectively removing smaller and smaller particles of "danger dirt" right down to 2/10 of one micron.

Channel-Proof



Exclusive, patented *Laminar* construction makes every Walker cartridge absolutely channel-proof. There are no "low-resistance" spots ... no natural channels to let unfiltered oil pass through.

FILTERS

PATENTED
with *Laminar**
TRADE MARK
CONSTRUCTION

Tomorrows' Car . . . Continued from Page 38

bustion chambers through the carburetor at a certain level of the speed range for extra power boost. The engine is expected to develop more than 300 hp with the supercharger. Bore and stroke will be $3\frac{1}{4}$ in. by $3\frac{1}{4}$ in., and piston displacement will be 215 cu. in.

Engine weight is expected to

total 500 lb, while the car's total weight is approximated at 3000 lb. The low weight factor is attributed to the use of heat-treated magnesium and aluminum alloys in body and engine construction.

A special Dynaflo torque converter is housed near the rear of the stationary driveshaft, just ahead of the differential. The rear

brakes are located on either side of the differential, rather than on the wheels. Twin universal joints on the axles complete the rear assembly.

The body is only $36\frac{1}{4}$ in. high at the cowl and 50 in. high with the convertible top raised. Wheelbase is 115 in. and overall length is 200 in. Overall width at the front fenders is $76\frac{1}{2}$ in. The ground clearance is 6 in. Leg room totals $46\frac{1}{2}$ in. and head room $35\frac{3}{4}$ in.

The top section of the front grille is part of the lighting system. When the front lamps are turned on, the grille revolves out of sight and a pair of close set headlights, fitted on the reverse side of the grille, swings into place.

Beneath the headlight-grille assembly is the radiator air intake. An inverted Y-shape bar protects the aluminum radiator core. Additional slotted air inlets range along the sides of the main inlet. Two other small air scoops are designed on the underside of the front bumper. The cooling system utilizes twin fans, one on each side.

The lighting system includes a pair of running or parking lamps at the outer extremities of the front fenders, just above the flanking curve of the bumpers. These outline the frontal width.

Two sets of three tail lamps are mounted on the trailing edge of the rear fins, outlining the car from behind. These operate as tail lamps and directional signals, while below them at the base of the fins are the backup lights.

The simulated jet-type tail cone houses the stoplight, centered by a "spinner" or bomb-shape hub that serves as a rear bumper. Two smaller but similarly shaped spinners are fitted into the split front bumper design at either side of the radiator grille.

Le Sabre's twin tail fins have the functional purpose of housing aircraft type 20-gallon rubberized fuel cells, one for gasoline and the other for methyl alcohol. They are similar to fuel tanks in aircraft wings.

(Continued on page 126)

STOPPERS at the SHOW!

EIS

Recognized as the standard for replacement. Designed, manufactured, packaged and priced to meet the needs of service stations and distributors.

THE COMPLETE BRAKE PARTS LINE

THE COMPLETE BRAKE PARTS LINE

THE COMPLETE BRAKE PARTS LINE

THE COMPLETE BRAKE PARTS LINE

25 EIS WAREHOUSES are ready to serve you almost anywhere in the world

Order from your jobber or write us direct for information on the complete EIS Line

CABLES FLUIDS PARTS

KITS TOOLS CYLINDERS

Profit Builders that will . . .
SPEED SERVICE
IN THE DAYS AHEAD



GLASS FRONT BRASS FITTING STOCK
Gives Broad Coverage . . . Eliminates pick-ups . . . has 80 individual compartments, each clearly labeled.
IMPERIAL No. 450-F



FLEXIBLE HOSE and ATTACHABLE FITTING KIT
 . . . you can make up virtually any needed gas, oil or oil filter line.
IMPERIAL No. 115-FN



FLEXIBLE FUEL LINE MERCHANDISER . . .
 20 lines cover 90% of all jobs . . . simplified labeling aids in selecting right line quickly.
IMPERIAL No. 163-F



NEW DRAIN COCK KIT
The RIGHT Drain Cock Always on Hand.
IMPERIAL No. 333-E

Ask for Catalog No. 124-B



IMPERIAL BRASS FITTINGS
FORGED for greater Strength and Toughness.
TUBING SIZE MARKED ON NUT
LONG DRYSEAL PIPE THREADS

IMPERIAL FLEXIBLE GAS and OIL LINES



... pressure tested, service proved, clearly labeled, always a perfect fit.

FLEXIBLE HOSE and ATTACHABLE FITTINGS

For making up special gas and oil lines fast.



IMPERIAL TUBING TOOLS
 . . . get jobs done faster.

HI-DUTY TUBE CUTTER



Free Wheeling Ball Bearing Action **IMPERIAL No. 274-F** for 1/2" to 1" O. D. Tubing.



FLARING TOOL

with Quick Slip-on Yoke **IMPERIAL No. 193-F** flares 3/16", 1/4", 5/16", 3/8", 7/16", and 1/2" O.D. Tubing.

THE IMPERIAL BRASS MFG. CO., 1217 W. Harrison St., Chicago 7, Ill.

In Canada: The Imperial Brass Mfg. Co., 33 Church St., Toronto, Ontario

IMPERIAL

Brass Fittings • Flexible Fuel Lines • Tube Working Tools
 Battery Hydrometers • Barrel Faucets • Welding Equipment



Tomorrows' Car . . . Continued from Page 124

Le Sabre has the usual instrument panel gauges and dials. In addition it has such aircraft features as a tachometer, compass and altimeter. Other indicators register engine oil temperature and pressure and the torque converter fluid level and temperature.

Knob controls are illuminated by small bulbs in plastic inserts

in the handles. They light whenever the ignition is turned on.

Electrical pushbutton door releases operate inside and out and windows are lifted and lowered electrically. In the event of battery failure, door releases function mechanically with an extra push on the buttons or a turn of the car key.



CP-730 running oil pan screws

from oil pan screws to spring U-bolts

It's but a matter of seconds to run any nut, bolt or cap screw on car or truck with a CP reversible Air Impact Wrench. Wrenches from 7/16" to 1" bolt size have detachable angle heads, and the 1 1/4" bolt size (CP-365) is available in straight or angle-head models.

Air consumption is low, the average being about that of a grease gun.

Controllable power assures that nuts and cap screws on hydra-matic units, connecting rods, cylinder heads and main bearings, can be run to proper tightness.



CP-770, with detachable angle head, tightening spring U-bolt

Capacities

CP-730	.....to 7/16" bolt size
CP-750	.....to 5/8" bolt size
CP-770	.....to 1" bolt size
CP-365	.....to 1 1/4" bolt size



AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

Instrument panel controls operate hydraulic jacks on each of the car's wheels. In the event of a blowout or flat tire, the driver can jack up the car without leaving his seat. An electrically driven screwjack, controlled by a switch, is available to adjust the driver's seat.

In addition to a warm air circulating system, the car is equipped with thermostatically controlled electrical seat warmers. These operate on the same principle as electrically heated flying suits used by airmen.

Le Sabre has an electrically operated convertible top. Its construction is such that it has no visible linkage. Also, it may be partially opened to ease the way for driver and passenger to get in or out of the seats. If the car is parked with top down, rain falling on a sensitized spot between the seats actuates the top raising mechanism and raises the windows automatically.

The rear view mirror differs from the conventional type in design. It is built into the center of the cowl above the instrument panel rather than at the upper level of the windshield—below rather than above the driver's eye level. When the convertible top is raised the backlight or rear window acts as a prism to focus the rear view onto the mirror or bring the rear view into range.

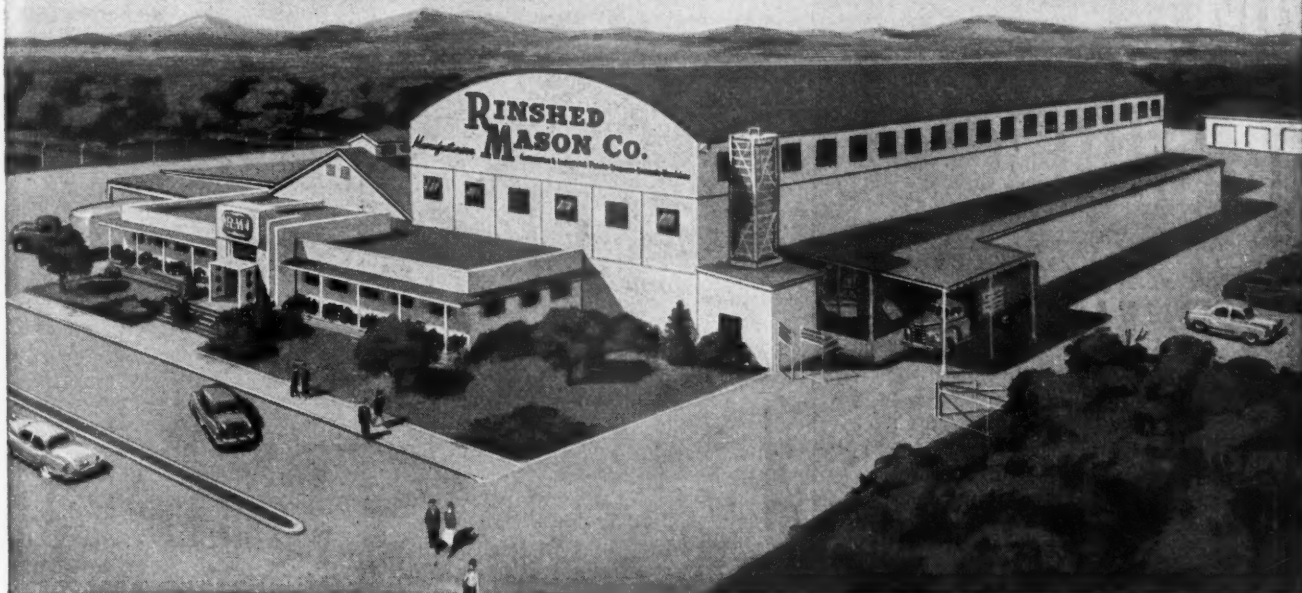
Because the wheels of Le Sabre are smaller than the conventional size, 13 in., the finned brake drum diameter is limited to 9 in. To compensate for this, the brakes are a twin shoe type, mounted side by side, to provide more braking surface.

Front suspension is independent with a special anti-drive feature for quick stopping. Also independently suspended are the rear wheels, leaving the differential stationary.

A 12-volt battery, compartmented in the rear of the car, and a special generator are needed to power the electrical devices on Sabre. Airscoops on the leading edge of the rear fenders ventilate both the battery compartment and the rear brakes through a duct system.

Illustrated is the new R-M plant at 1440 N. Lemon St., Anaheim, California (Los Angeles Area.)

Established in 1919 at Detroit, R-M is one of America's leading manufacturers of fine quality lacquers, enamels and undercoats for automobiles, trucks, farm equipment, appliances, and numerous other products of industry.



"How our Expansion Program will benefit you"

"We have purchased manufacturing and warehousing facilities at Anaheim, California to serve our West Coast customers, but *all* users of R-M finishes throughout the country will benefit from our increased overall capacity resulting from this expansion. Our California plant is expected to ease the strain on our Detroit operation, and obvious coast shipping problems will be automatically eliminated.

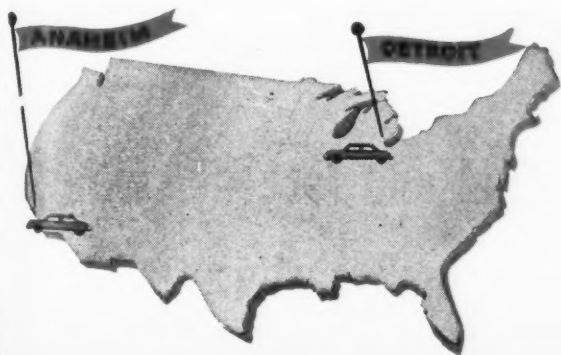
"All R-M users will continue to benefit from our 31 years accumulative experience in the scientific research and manufacturing of automotive and industrial finishes.

"You are cordially invited to pay us a friendly visit at Detroit or Anaheim, California."

Fredrick G. Weed



FREDERICK G. WEED, President



Rinshed-Mason Co.

5935 MILFORD AVE.
DETROIT 10, MICH.



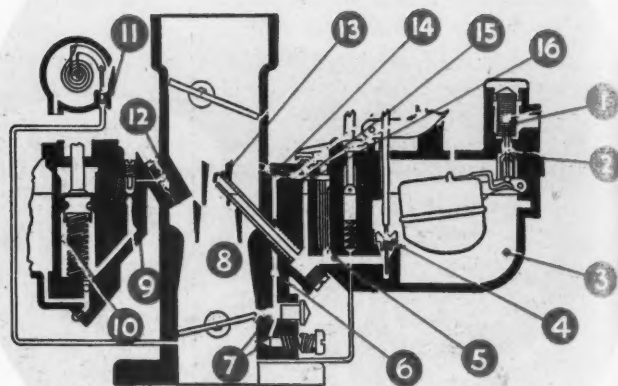
1440 N. LEMON ST.
ANAHEIM, CALIF.

Eliminate GUM and MUCK from the 16 Pass-Ports to Carburetor trouble with



\$1.50

LIST PRICE



Gasoline GUM and Carburetor MUCK can cause any one or all of these motor miseries:

HARD STARTING	LOW TOP SPEED
FLOODING	STALLING
SLUGGISHNESS	ENGINE POPPING
FLAT SPOTS	SLOW PICK-UP
HIGH GAS CONSUMPTION	

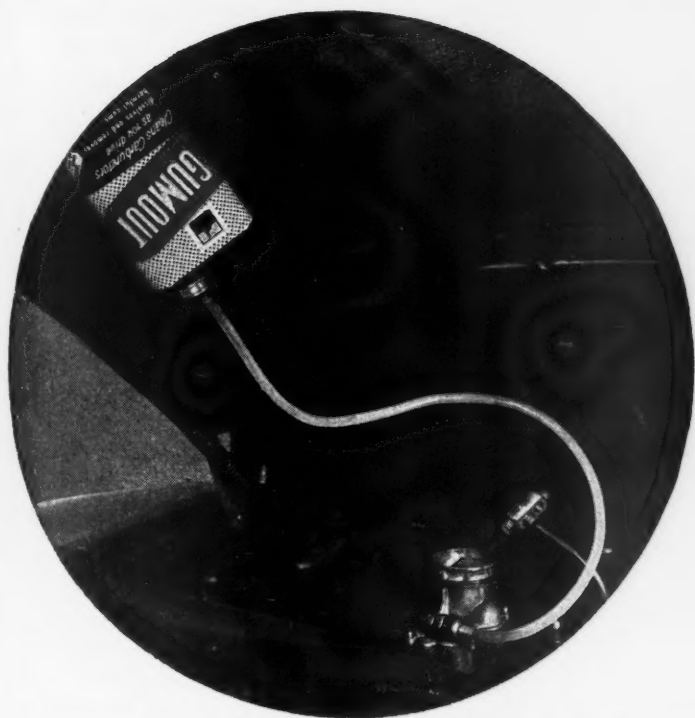
...that's why you should always "clean the carburetor first—with GUMOUT." Replacing or adjusting points, spark plugs, timing, or coil is a waste of time and effort if the trouble is in the carburetor ... as it often is! Be safe ... always "Clean the carburetor first—with GUMOUT."

One application of GUMOUT

Cleans carburetors, "on-the-engine."

Removes Gum, Muck, Dye, Rust, Corrosion, Lacquer, Varnish, and Moisture.

The original and largest selling
"on-the-engine" carburetor
detergent *in the world!*



You can clean carburetors with GUMOUT in less than 20 minutes at a cost of only 90c . . . or you can clean them the old-fashioned way in a couple of hours at a cost of three or four dollars, or even much more!

GUMOUT is an all-powerful solvent that cures fuel system trouble without dismantling in one quick, safe application! GUMOUT eliminates all motor miseries caused by gasoline gum and muck in the fuel system . . . puts zip and pep back into sluggish engines.

No other product is similar to or equal to GUMOUT in any respect. GUMOUT can be applied directly to the carburetor or added to the gas tank. Satisfaction is Guaranteed or Your Money Back!

At the first sign of engine trouble . . .

With every tune-up job . . .

At every 2,000 miles

Clean The Carburetor—with GUMOUT



**PENNSYLVANIA REFINING COMPANY
CLEVELAND 4, OHIO**

Butler, Pennsylvania Edgewater, New Jersey
Refiners of Penn Drake Petroleum Products since 1880

Order GUMOUT
from your jobber today

If he can't supply you, send us your order and your jobber's name—and we'll send you a can of GUMOUT free!

Clean Carburetors "on-the-engine" in less than 20 minutes with the GUMOUTER



GUMOUT DIVISION
Pennsylvania Refining Company,
2686 Lisbon Road, Cleveland 4, Ohio

(MA)

Please send

_____ cases of GUMOUT (24 pints each) at \$21.60 per case

_____ GUMOUTER Kits at \$2.95 each

_____ additional information.

Name _____

Company _____

Address _____

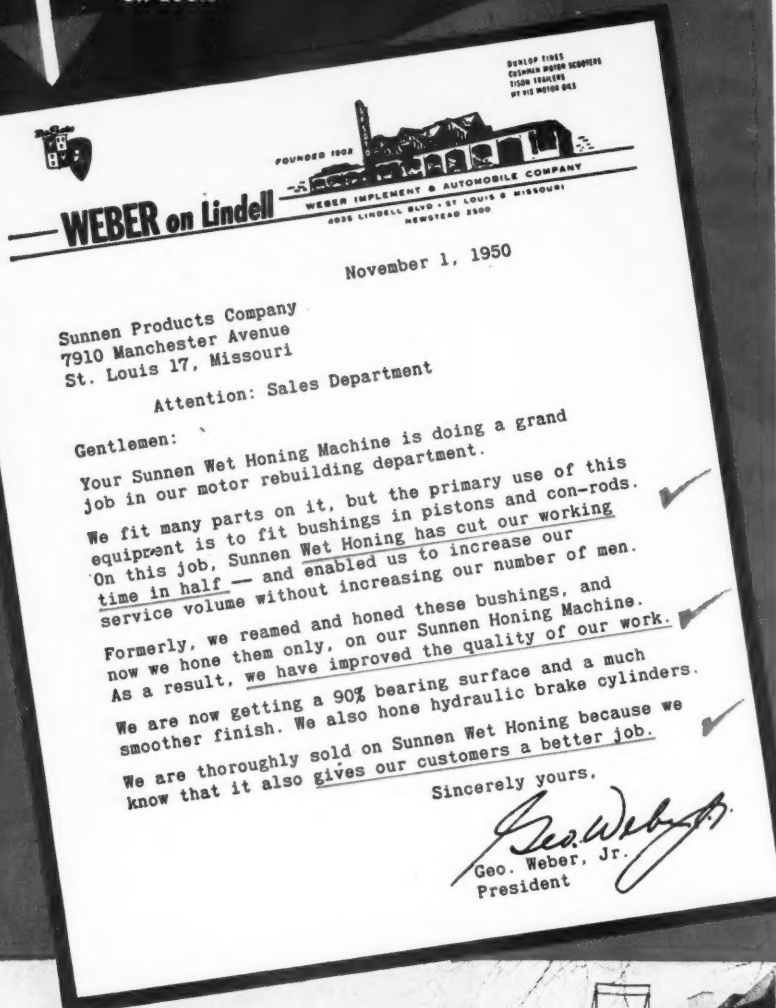
City _____ Zone _____ State _____

Jobber's Name _____

Sunnen Wet Honing

- CUTS WORKING TIME IN HALF
- IMPROVES QUALITY OF WORK
- GIVES CUSTOMERS BETTER JOBS

at Weber on Lindell,
St. Louis



SUNNEN PRODUCTS CO.
7918 Manchester Ave., St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

SUNNEN

Dealers . . .

Continued from Page 59

to the motoring public. It isn't as simple to trim expenses and cut operating costs nowadays. The increased cost of doing business is a very tough factor in the picture when declining volume and decreasing profits make operating adjustments necessary. Nowadays when gross profits are reduced by market conditions, high operating costs place net profit in jeopardy.

As we go into the new year of 1951, no automobile dealer can stand still and wait to see what the future brings forth. The swift pace of world and domestic affairs makes it necessary for the retail automobile dealer, like all business men, to keep abreast of his market, and to be intelligently prepared for all eventualities. He must keep his operations flexible and ready for quick adjustment to meet whatever changes the uncertain future of production, sales and consumer-purchasing power may bring about.

I believe as individuals, dealers are in a stronger position to meet the future uncertainties which the defense situation is bringing upon us. Dealers have had good years since 1946 to build up our resources and improve our facilities. The need for service is far greater because of the increased number of registered vehicles on the streets.

But overall, common sense, fundamentals of good business, basic foresight and wise, long-range planning should be the corner stones for dealer operations in 1951.



Train More Mechanics

Continued from Page 37

certainly not afford to lose.

Intensive training in the mechanical skills is urgently needed. War is a mechanized operation and this need for men with mechanical experience will become increasingly pressing.

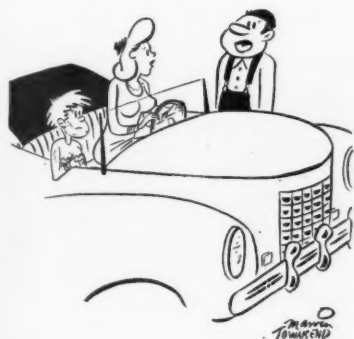
The defense industries will require large numbers of mechanics. At the same time it is imperative that enough mechanics be available to keep passenger cars and trucks in operation. Since it is clear that the armed services and defense industries will have first call on an increasing proportion of the existing body of trained mechanics, the obvious thing for the automotive service industry to do is to get rolling at once a thorough-going training program.

It takes time for defense industries to acquire volume. This provides an interim period to train replacements. I repeat that particular attention should be given to the training of older men, the handicapped and women.

Nor can we afford to lose sight of the fact that developments may make it necessary to tighten existing Selective Service deferments and to lower physical standards.

In any event, my advice to the automotive service industry is to start the training programs and to start them quickly—for the mutual benefit of the industry and the nation as a whole.

Wash Job
\$1.00



"O.K., but he'll be 50¢ extra."

Chilton's MOTOR AGE, JANUARY, 1951



HANDLES MORE DIFFERENT JOBS IN LESS TIME...WITHOUT COMEBACKS

Yes, with a Sunnen Honing Machine, you can do all these jobs, right in your own shop—and do them better.

- | | |
|------------------------------|-----------------------------|
| 1. Piston Pin Fitting | 5. Small Bore Engines |
| 2. Con-rod Bushings | 6. Air Compressors |
| 3. King Pin Bushings | 7. Steering Sector Bushings |
| 4. Hydraulic Brake Cylinders | 8. Generator Bushings |

and most any other hole from .480" to 2.625" diameter.

Thousands of satisfied owners use Sunnen honing because it produces straight, round holes, quickly and easily—gives a *measured* oil clearance with full bearing surface and pre-run-in fit.

Call your Sunnen jobber now—ask him to arrange a demonstration. *Get the proof* that Sunnen honing will make money for you.

SUNNEN PRODUCTS CO.

7918 Manchester Ave., St. Louis 17, Mo.

Canadian Factory: Chatham, Ontario

SUNNEN

BUSHING GRINDERS • CYLINDER GRINDERS
ROD ALIGNERS • CRANKSHAFT GRINDERS
BEARING SIZERS • SERVICE TOOLS

Perfect for



You can depend upon Wagner quality because Wagner products are used as original equipment by automobile, truck and trailer manufacturers. Ask your jobber, or write us for free Catalog AU-500.



Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMaX BRAKE LINING • AIR BRAKES

service...

WAGNER LOCKHEED HYDRAULIC BRAKE PARTS...

... same as those used on new vehicles are available to you for replacement needs

When you replace worn brake parts with new genuine Wagner Lockheed parts you are assured perfect fit and maximum service life. This line is complete. It provides the correct replacement for the job, regardless of make or model of vehicle. It includes

hydraulic wheel cylinders and master cylinders, ready to install; wheel cylinder and master cylinder repair kits, containing all necessary parts for a complete overhaul job; individual parts such as cups, boots, pistons, etc., brake hose; and other related parts.

...and all from **ONE** source..... your Wagner jobber....



**WAGNER LOCKHEED
HYDRAULIC BRAKE FLUID**
—is an all season fluid that functions under all driving temperatures... Recommended for all cars and trucks... Mixes with other approved fluids. Surpasses S. A. E. standards.



**WAGNER CoMAX
BRAKE LINING**
—offers complete coverage for all your needs... in sets, rolls, blocks, slabs and cut segments. A non-compressible, long-wearing lining of uniform texture.

Wagner Electric Corporation

6498 PLYMOUTH AVE., ST. LOUIS 14, MO.

(Branches in Principal Cities and in Canada)

*...the best known
name in brake service*

Please send me the latest Bulletins on Hydraulic
Brake Servicing—HU-17H, HU-197.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____



TACHOGRAPH • ELECTRIC MOTORS • TRANSFORMERS

INDUSTRIAL CRANE BRIDGE BRAKES

It Happened in 1950 . . . Continued from Page 120

. . . Sept. 27. Ford to build airplane engines in former Dodge-Chicago plant . . . Sept. 29. Mrs. Clara Bryant Ford, 84, widow of Henry Ford, died in Detroit . . . Price tag on K-F's Henry J is \$104 under lowest comparable Big Three model.

OCTOBER 7. With the production of 5.1 million passenger cars

according to Ward's, output thus far in 1950 topped the best previous full year which was 1949 . . . **Oct. 10.** Automotive Advertisers Council announced phase two of its "Get It From Your Jobber" Program, to use "Care Will Save Your Car" slogan . . . **Oct. 11.** Studebaker boosted 1951 model prices from \$50 to \$175 . . . **Oct. 26.** Credit

curb hits new and used car sales.

NOVEMBER 3. Chrysler named L. L. Colbert president . . . **Nov. 10.** National Used Car Dealers met in Dallas, Tex., bemoaned drop in sales and prices following credit curbs . . . **Nov. 20.** Fordomatic Drive automatic transmission is optional equipment on newly-announced 1951 Fords . . . **Nov. 24.** Muntz to assemble cars in Chicago.

DECEMBER 1. Korean crisis stimulated scare automobile buying . . . **Dec. 6.** Ford and GM hiked prices of 1951 models about five per cent . . . RFC agreed to lend \$25 million to Kaiser-Frazer . . . **Dec. 4.** ASI Show held in Chicago . . . **Dec. 9.** Ford and GM rejected Government request to cancel prices boosts . . . **Dec. 16.** President proclaims National Emergency and orders roll back of car prices to Dec. 1 . . . **Dec. 26.** 540 people killed in U. S. highway accidents over Christmas week-end—more than Korean War deaths in the same period.

Personals

Carl R. Wipern has been appointed executive vice-president of the McQuay-Norris Mfg. Co., St. Louis, Mo. This position was



left open when A. J. Mummert was elected president of the firm last April. Wipern has been vice-president in charge of sales for the past seven years.

John A. Moreland, Jr., formerly with Wadell Equipment Co., has been appointed manager of the automotive sales division of Hunt-Spiller Manufacturing Corp., Boston.

Look for This Stamp of Quality

(Never accept Unbranded Brake Lining)

There are all kinds of brake lining being sold today. Many are little more than "glorified linoleum." When you buy brake lining . . . when you exchange brake shoes . . . look for the Thermoid name and the words Precision Processed, on the lining. Remember! Your reputation and your customers' safety depend on it.

Thermoid

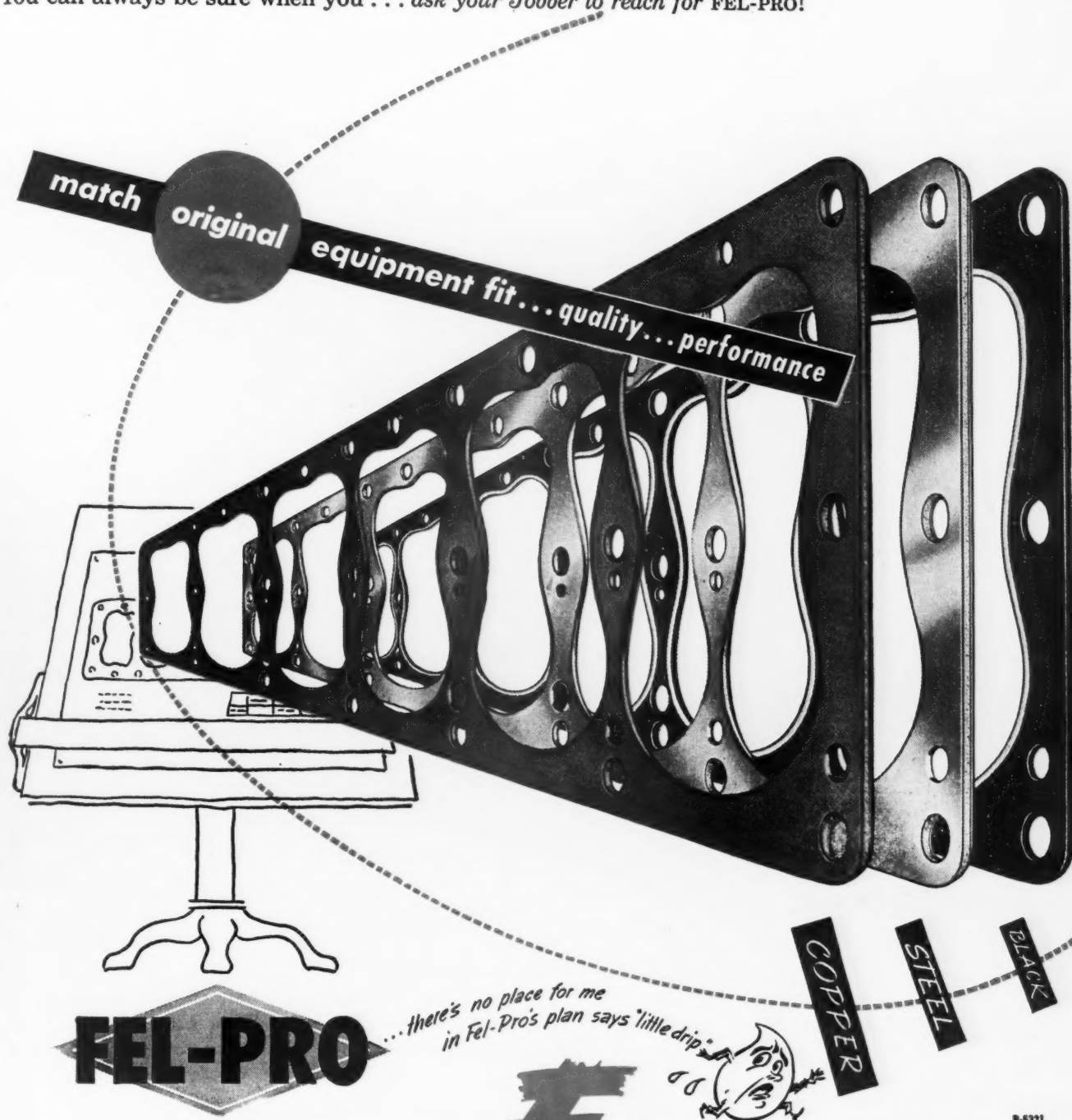
the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.

Thermoid Company • Trenton, New Jersey

FEL-PRO's always ONE STEP AHEAD

to safeguard your future Gasket Satisfaction!

What would happen to Fel-Pro users in the event of critical shortages of strategic materials? NOTHING! Fel-Pro's already a step ahead of that possibility! Fel-Pro Engineers have developed and thoroughly proven by rigorous laboratory tests conducted over many months, gaskets which will serve you during any possible emergency. These gaskets will carry the same guarantee as do Fel-Pro Gaskets you are now using. In any event, you can be sure that the Fel-Pro Gaskets you use today, or the Fel-Pro Gaskets you use tomorrow, are made by creative engineers who know what modern high speed engines require in raw materials and in precision construction. You can always be sure when you . . . ask your Jobber to reach for FEL-PRO!



FEL-PRO

Famous For

Fit

FELT PRODUCTS MFG. CO.

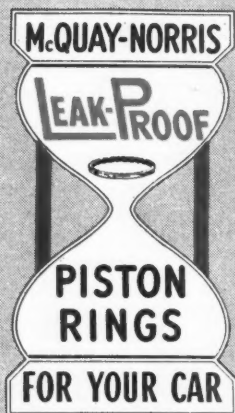
1521 CARROLL AVENUE, CHICAGO 7, ILLINOIS

FAST SERVICE ASSURED by Warehouses Near You... ATLANTA • BOSTON • NEW YORK • LOS ANGELES • OAKLAND • PORTLAND

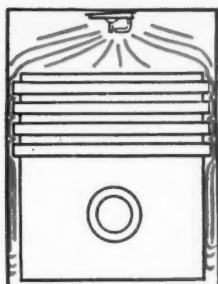
Chilton's MOTOR AGE, JANUARY, 1951

R-5321

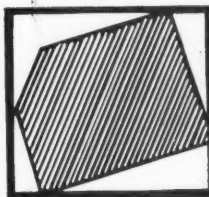
1st



LEAK-PROOF FIRE RING



BLOW-BY is the escape of power past the piston and rings into the crankcase. It blows the oil from the cylinder wall, creates acids in the oil, breaks down its lubricating qualities. This causes scuffing and premature wear.



THE LEAK-PROOF TORSION TIGHT FIRE RING This ring is known as a "Torsion Tight Fire Ring," and the twisting action causes the bottom of the ring face to bear heavier on the cylinder wall than the top and also tends to seal the sides of the ring against the piston groove. It stabilizes the ring and so gives

a far better seal. In addition, this action lessens the gas pressure behind the ring.

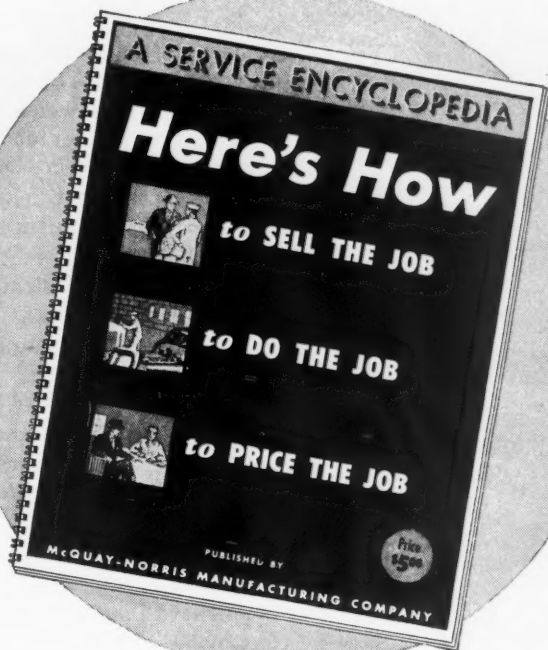
IT IS MADE OF PHOSALLOY

and scuff-proofed by electrolytic tin coating. Because it operates under extreme temperatures in the driest part of the cylinder, heatproofed material is necessary for proper performance.

SOMETIMES two Torsion Tight Fire Rings are used in a Leak-Proof Set. This is due to unusual Blow-By conditions in some motors.

McQUAY-NORRIS MANUFACTURING CO.

Yours for the Asking



THIS COMPLETE SERVICE ENCYCLOPEDIA

This SERVICE ENCYCLOPEDIA comes with a heavy cover, and is wire bound for long use... It tells you HOW to SELL the JOB through pages that show the customer just what you do... It tells you HOW to DO the JOB by means of pictures on TUNE-UP jobs, RING jobs, OVERHAUL jobs and many others... It tells you HOW to PRICE the JOB with rate charts, work time, etc. Here is a book full of information every service department needs... and...

It's Yours for the Asking **Here's How TO GET THE SERVICE ENCYCLOPEDIA**

Simply place an order for four sets of LEAK-PROOF Piston Rings. You select the sets you want. You will be billed for the sets at your regular price by the McQuay-Norris jobber from whom you buy. HE WILL SEND THE SERVICE ENCYCLOPEDIA AT NO EXTRA CHARGE. The most liberal offer we have ever made.



McQUAY-NORRIS MFG. CO. St. Louis 10, Mo.

Please send full details on "HERE'S HOW" to:

Name _____

Address _____

City _____ Zone _____ State _____

LEAK-PROOF PISTON RINGS

Productivity—Key to Progress

Continued from Page 35

difference between our country and others. In my 50 years of experience and memory, I have seen the most amazing increase in the standard of living of a people ever achieved anywhere in the world. This is why I am so sure that our American system of free competition and industrial development is sound—that productivity is the key

to progress.

I do not know how anyone who has thought about the matter and who has witnessed all of these developments, starting with the great improvements in modern plumbing and electric lights and followed by the automobile, airplane, household appliances, radio and television, the things that have

added so much to our comfort and pleasure of living both in cities and on farms, can believe that our social, economic or political system is fundamentally wrong.

Nor do I understand how anyone can feel that industrial progress has been made at the expense of social progress. Look at our churches, colleges, schools, hospitals, theaters, art centers and recreation parks. No American should suffer from the great delusion that any form of communism or socialism which promotes the dictatorship of the few instead of the initiative of the millions can produce a happier or more prosperous society.

To continue this marvelous progress labor and management must work together. An American solution for the problems of industry must be found consistent with the basic principles on which our country was founded.

We believe that real progress has been made during the last few years by General Motors and its employes in finding a sound solution for the management-labor problem.

We believe that full acceptance by both parties that higher living standards depend upon technological advancements, mechanical power and better machines, and the co-operative attitude of all parties in such progress, is a very significant step ahead in labor-management relations.

I have no worries about our country being able to stand the costs of pensions, insurance and high wages, and even a reasonable rearmament program.

[Excerpts from an address by Mr. Wilson on accepting the Wharton School of Finance Award of Achievement.]



**PUT PEP IN YOUR BUSINESS...
MONEY IN THE BANK**

**with SERVICE MASTER
HYPRESSURE
Jenny**

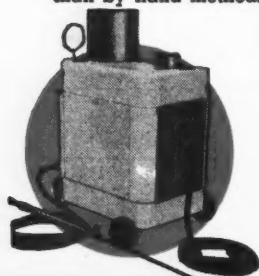
**Combination
STEAM CLEANER and
COOLING SYSTEM FLUSHER**

**A Double-Barreled Money Maker For Every
Garage, Repair Shop and Service Station**



This end is a STEAM CLEANER

It cleans motors and chassis; prepares for undercoating; boosts profits through saving up to 40% of mechanics' time by cleaning parts and equipment before repairs; cleans white sidewall tires; thaws radiators and does other profitable jobs that bring customers in and keep them coming back. It saves money and labor by cleaning lifts, grease pits, floors, driveways, lavatories, etc., 10 times faster and better than by hand methods.



This end is a COOLING SYSTEM CLEANER

It combines heat, chemicals, sudden but safe temperature changes, and strong blast to give the best cooling system cleaning job known to science. It back-flushes radiator and motor block in one operation. Users report \$300 to \$500 extra business per month from cooling system cleaning alone.

**A Two-in-One Money Maker
for Less Than \$500!**

Write for FREE BOOK and full information.

**HYPRESSURE JENNY DIVISION
THE HOMESTEAD VALVE MANUFACTURING COMPANY**

P.O. BOX 95

"Serving Since 1892"

CORAOPOLIS, PA.



BIG PROFITS IN TURN SIGNALS!

ALCO

Feature the New
ALCO TURN SIGNAL
CONVERSION KIT

with the Automatic
SELF-CANCELLING SWITCH
FOR FRONT AND REAR LIGHTS

ADDS DIRECTIONAL SIGNALS TO PRESENT FRONT AND REAR LIGHTS

Quick and simple to install. No holes to drill. Socket conversion units are exact duplicates of manufacturer's standard equipment. Colored connecting wires with snap-in tips assure easy identification. ALCO's self-cancelling switch automatically cuts off the signal after the turn has been made. Can also be operated manually.

CUSTOM BUILT TO FIT MOST POPULAR CARS

Each KIT contains:

AUTOMATIC SELF-CANCELLING SWITCH,
SOCKETS, BULBS, FLASHER, INLINE FUSE,
ALL NECESSARY WIRING

STATE APPROVED

STANDARD SWITCH of baked enamel on die cast body with chrome handle.

DE LUXE SWITCH highly polished all chrome.

ALCO DIVISION OF

AUTO LAMP Manufacturing Co.

2909 Indiana Ave., Chicago 16, Ill.

SOLD ONLY THROUGH AUTHORIZED JOBBERS

ALCO

For further information use postcard on page 57

44. Car Washer

Phillips Pump & Tank Company is manufacturing the Wavewash car washer, which is claimed to enable one operator to wash four to six cars per hour. A swinging spray arm sweeps over the car to allow water to reach every part of the vehicle with direct sprays. It is attached to the station water line

and can be installed in a bay having a lift without danger of interfering with operation of the lift. Being portable, it can be used outside during the day and inside at night. Also, savings are said to be effected in water consumption. The operator has absolute control over the use of water and detergent.



MR. SERVICE MAN . . .

STOP

SLIPPING ACCIDENTS COSTLY MAINTENANCE DIRTY HOUSEKEEPING

With the regular use of

OIL-DRI

ALL-PURPOSE
REG. U.S. PAT. OFF.

ABSORBENT

- A small amount of OIL-DRI spread on grease and oil spots on floors, driveways, showroom floors, repair departments and pits, will completely absorb all dirty and dangerous oil and grease accumulations.
- Experienced garage and service station men everywhere agree upon the systematic use of OIL-DRI as the ideal, economical way to keep floors DRY . . . SAFE . . . CLEAN . . .
- Absorbs all types of oils, greases and emulsions from pits and from under grease lifts.
- Economical — OIL-DRI can be swept up and used over and over again. Reduces labor costs.



THE OLD WAY
(WITHOUT OIL-DRI)



THE NEW WAY
(WITH OIL-DRI)



THE OLD WAY
(WITHOUT OIL-DRI)



THE NEW WAY
(WITH OIL-DRI)

Clean Service Stations Attract the Motoring Public

Members NSPA



Oil-Dri Corporation

OF AMERICA

520 N. MICHIGAN AVE.
CHICAGO 11, ILLINOIS

45. Battery Charger

The Bishman Manufacturing Company has introduced a new portable 75 ampere battery charger with automatic transformer. Be-



cause the transformer has complete control of the charging rate under all battery conditions, the manufacturer claims that the charger will not overcharge a battery no matter what may be the condition. The unit has a charge voltage indicator and automatic time control.

46. Parts Line

Automotive Manufacturing Company, Inc., is manufacturing a complete line of universal joints, front end parts, water pumps, king bolt sets, etc. The manufacturer states that all are made to precision and inspected before shipment. They are attractively boxed and complete with all parts.

(Continued on page 144)



Rankin

GIVES YOU MORE TO SELL

dollar for dollar feature for feature

Popular
"Boltaflex" Cap

Reinforced
at all points
of stress

Solid plastic
piping — no
cord to peel

Note Superior
Rankin
Tailoring

Lock-stitched
throughout

Finest
supported
plastic
facing

Highest Quality
Lumite woven
plastic fabrics

This is news that can make *more money* for you in seat cover sales. Now Rankin gives you more to sell than ever before. Smart new, 1951 patterns and colors in nationally advertised Lumite woven plastic and Polychrome plastic coated fibre fabrics. Popular "Boltaflex" and specialty trims. Finer custom fit. Superior Rankin tailoring. Style, quality, long-lasting construction . . . all at POPULAR Rankin prices! Rankin warehousing gives you fastest delivery on models for every car . . . every car owner. Write today! Get free catalogs, prices and complete information on this BETTER PROFIT Rankin Plan.

**In '51, Rankin Gives
You Still Bigger
Seat Cover Profits**

The Rankin SUPER
COVER with "Boltaflex"
cap and Nationally Adver-
tised Lumite Woven
Plastic Fabric. Number One
in an All-Star line.

MAIL COUPON TODAY



RANKIN MANUFACTURING CO.
CEDAR FALLS, IOWA
WICHITA FALLS, TEXAS WALNUT CREEK, CALIFORNIA

RANKIN MANUFACTURING COMPANY
Dept. MA, Cedar Falls, Iowa

Please send prices, samples and your bigger profit plan on the Rankin Seat Cover Line.

Name

Company

Address

City..... State.....



The Sign of

NEW
LIFE

for Your Shop!

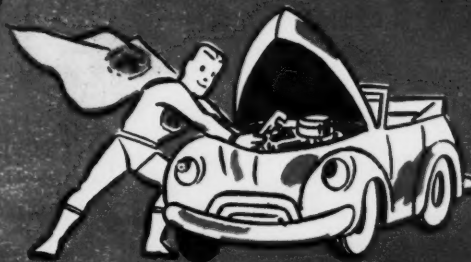
SEE YOUR KOPPERS AMERICAN HAMMERED JOBBER for full information on how you can become a *Certified Engine Expert*. Learn how you can cash in on the proved-in-practice sales helps that have boomed business for hundreds of shops like yours. And make it a practice to see your Koppers A-H Jobber whenever you have pistons to be resized. He has exclusive *Koppers Koetherizing®*—which expands a set of pistons in less than five minutes—with permanent precision—for less than a dollar per piston! KOPPERS COMPANY, INC., *Piston Ring Dept.*, Baltimore 3, Md.



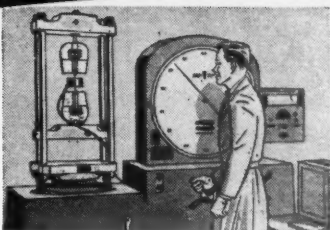
with a **GREAT RING-**

to put **NEW LIFE** in your re-ring jobs!

K-Spun is PROVED best!

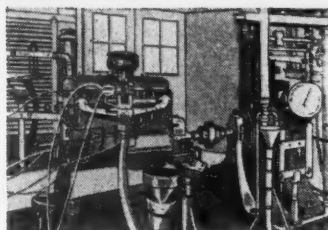


Guaranteed against breakage for the life of the engine, Koppers K-Spun Piston Rings give you the surest way to eliminate blow-by, restore power and provide positive oil control in car and truck engines. They help you turn out ring jobs that won't come back to cut your profits and jam up your shop. They build your reputation . . . and your business . . . by insuring ring jobs you can be proud to call your own!



IN THE LAB . . .

Exhaustive tests in Koppers' piston ring laboratory prove that K-Spun Piston Rings are twice as strong as conventional rings—have four times greater resistance to combustion shock, much greater wear resistance because of Koppers' centrifugal casting process.



ON THE DYNAMOMETER . . .

Engine tests show that K-Spun Rings provide a tight seal that keeps the full force of the explosion inside the chamber for full-power output. K-Spun-equipped engines maintain full power longer because K-Spun has 15% to 17% more wear resistance than ordinary cast iron.



ON THE ROAD . . .

K-Spun Rings have brought new driving performance to thousands of cars in millions of miles of motoring. And Koppers K-Spun Rings—made especially for today's high-compression engines—are guaranteed against breakage.

with a **GREAT PROMOTION-**

to put **NEW LIFE** in your sales!



Powerful Consumer Advertising!



Hard-hitting Koppers K-Spun ads will reach millions of motorists in the pages of The Saturday Evening Post, Time and Newsweek. They will plug the common-sense advantages of good car care. They will offer a free "New Life" booklet. They will produce thousands of new business leads for Koppers "Certified Engine Experts" everywhere!

A red hot sales plan!

As a Koppers "Certified Engine Expert," you will receive the tested Koppers Sales Booster Plan. It shows you how to hold old customers, get new customers, boom your business. It gives you a book full of sales information—plus plenty of sales helps to use right in your community!



SPECIAL STREAMERS!



SALES TRAINING MOVIE!



ENGINE CHARTS!



GUARANTEE TAGS!

PLUS . . . Reduced-rate ticket cards • Break-in instruction leaflets • Specification charts • Newspaper mats • Radio scripts • Handbills • and lots more!

For further information use postcard on page 57

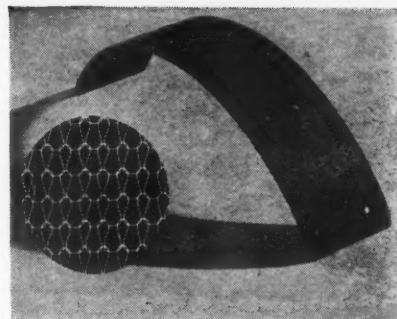
47. Tool Catalog

Cornwell Quality Tools Company announces its latest catalog on hand tools. This 120-page catalog describes and illustrates each of the Cornwell hand tools and is indexed so that the user can quickly locate the tool which he needs. Also included in this catalog are creepers, rules, gages,

testers, reamers, and many other items of automotive equipment.

48. Brake Lining

Johns-Manville is marketing Wire-Klad brake lining, a wire-reinforced lining using a new type of flexible wire mesh reinforcement. Because of this flexibility, internal stresses are said to be



avoided during the manufacture of Wire-Klad. The result is the elimination of distortion or concavity during use, even when the lining is exposed to extremely hot drum surfaces.

49. Oil Ring

The Muskegon Piston Ring Company has developed a new oil control piston ring which is said to have a very low rate of tension loss. Called the Flexline, this steel ring is of one-piece construction of the circumferentially compressible type. Features include complete side sealing of the openings between the segments forming the ring lands, together with high resistance to carbon plugging. Tension loss resulting from wear is said to occur slowly.

50. Front-End Parts

The Chefford Master Mfg. Co. have produced an attractive window or counter display of front end suspension parts. The display stand shows front end suspension parts comprising the upper and lower pivots, shafts, control arms, knuckle supports and coil springs,



and displays these parts assembled and mounted on a wooden base. The display is shipped assembled, ready for display.

(Continued on page 146)

First in demand!

THE NEW

LORRAINE

WORLD'S FINEST DRIVING LIGHT

Here's the spotlight that always leads the way—Lorraine! Equipped with an exclusive Rotary switch, controlled by a flick of the fingertips . . . exclusive wireless construction to guard against shorts . . . 360-degree continuous turning radius . . . sealed beam spotlight with half-mile range!

*New Appleton Side-View mirror installs in seconds with single theft-proof screw. No drilling—anyone can do it! This 4-inch polished bevel mirror is cased in heavy gauge chrome-plated brass, is mounted on free-action ball and socket. Makes a beautifully styled, ruggedly built accessory combination—World's Finest Mirror-Lamp Ensemble!

APPLETON ELECTRIC COMPANY
Manufacturers of Lorraine and Appleton Spotlights
1725 Wellington Avenue • Chicago 13, Illinois

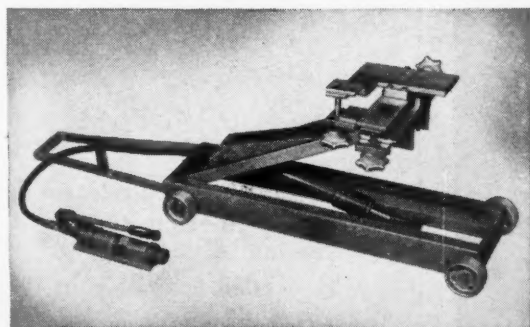
New Self-Demonstrating Display Stand

Perfect Set-Up for Handling Automatic Transmissions!

KENT-MOORE HYDRAULIC HOISTS GIVE YOU GREATER SAFETY IN USE PLUS SMOOTH, EFFICIENT ONE-MAN OPERATION!

Amazing how easy, *how profitable* it is to remove and replace automatic transmissions with the Kent-Moore Hydraulic Hoists. For these outstanding pieces of proven service equipment are designed and built by specialists to give you the fast, efficient one-man operation you've been looking for. They save mechanic's time, improve service efficiency, provide greater ease and safety in use. Yes, **SAFETY!** No manual lifting and lugging . . . no strains or sprains. No danger of dropping and damaging transmissions . . . no chance of injuring service personnel!

MODEL "63"—Designed for use with two-post car lifts, this rugged durable hoist is equipped with free-rolling caster type wheels for easy, accurate positioning under the transmission . . . double acting hydraulic pump for effortless lifting and lowering . . . plus a special rotating platform that permits lateral adjustments as well as tilting forward, backward and sideways to facilitate removal and replacement operations.



MODEL "27"—For use with car stands, chain falls, etc., wherever two-post car lift facilities are not available, this alternate transmission hoist features sturdy, rugged construction . . . ease, speed and safety in operation . . . plus special rotating tilt platform.



Write for complete information today!

Kent-Moore
ORGANIZATION, INC.

5-105 General Motors Building • Detroit 2, Michigan

Engineers and Manufacturers of Special Automotive Service Tools and Equipment



SPECIAL ADAPTERS PREVENT LOAD SHIFTING!

These special adapters are designed to hold their respective Transmission securely, prevent load shifting, eliminate damage to oil pan, provide greater

safety during removal and replacement operations. Available for Hydra-Matic, Dynaflo, Ultramatic and Studebaker Automatic Transmissions.



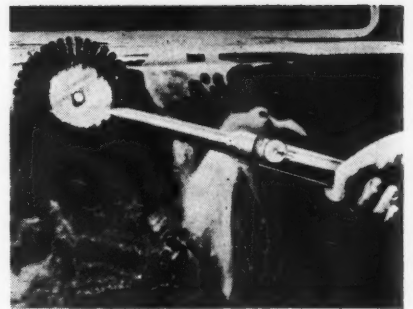
51. Anti-Freeze

U. S. Industrial Chemicals, Inc., is marketing U.S.I. Permanent Anti-Freeze, an ethylene glycol product which is designed not only to afford protection against freezing, but also it contains a combination of rust inhibitors to guard against corrosion in the cooling system. One filling of

U.S.I. Permanent Anti-Freeze is said to last all winter.

52. Washing Brush

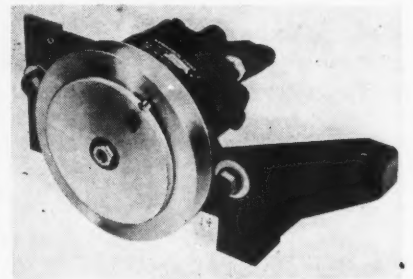
The Melaire Distributing Company announces an automatic valve attachment for the Swirl-O-Matic washing brush. This valve feeds detergent into the brush automatically, rinses and shuts off



the water at the touch of a finger. The Swirl-O-Matic brush revolves due to a turbine action of the water to simplify car washing. The brush is attached to the standard garden hose.

53. Hydraulic Pump

The Aro Equipment Company is marketing a new hydraulic pump bracket assembly for mounting on the Willys-Overland Jeep "F-Head" Engine. Designed for Jeep owners who need hydraulic power for operation of snow plows or farm accessories, it has a quick-



disconnect unit which releases the drive pulley allowing the Jeep to be driven on the highway.

(Continued on page 150)

Here's PROOF of

AIRTEX Fuel Pump

Superiority

Better!
50,000-MILE
Guaranteed
Diaphragm
Won't crack or become
porous. Flows instantly
at 20" below, or top en-
gine head.

Better!
LINKAGE
Built to Last!
Gives quicker prim-
ing for easier start-
ing.

Better!
Rugged,
Hardened
PULL ROD
Maintains efficient
linkage action and
diaphragm stroke.

Better!
Patented
VALVE CAGE
ASSEMBLY
Reduces leakage—
gives perfect seal for
instant, ample fuel
flow to carburetor.

Better!
Longer
Wearing
ROCKER ARM
Full diaphragm
stroke. Uniform fuel
delivery.

Use the AIRTEX NEW PUMP CORE CREDIT PLAN For EXTRA PROFITS!

Single type old cores worth 25c each on new single pump purchases. (Dual type worth 50c.)

AIRTEX

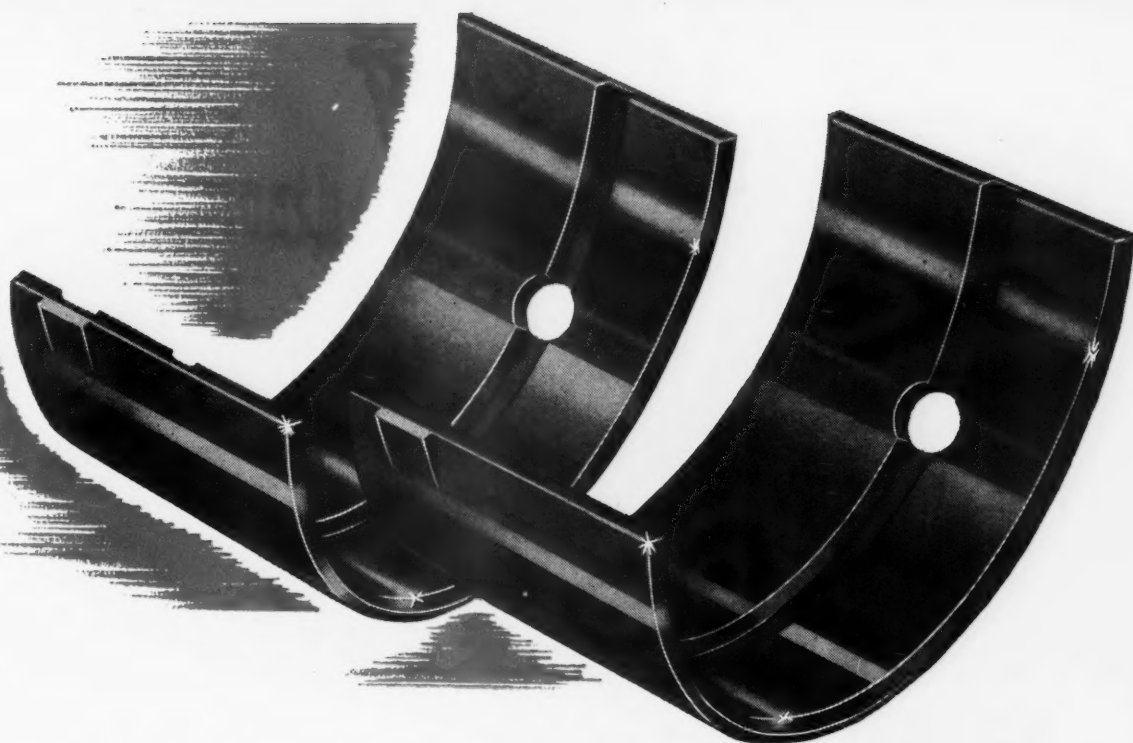
AUTOMOTIVE DIVISION

World's Largest Independent Fuel Pump Manufacturer

FAIRFIELD, ILL.

Get Your FREE AIRTEX FUEL PUMP SALESMAN WALL POSTER—Ask Your Jobber Today

"Please accept these repairs with the compliments of the management and ask for me the next time you come in—"



Master Engine Mechanics Prefer **MONMOUTH**

TODAY'S cars are powered with the finest engines ever built.

For a great majority of these engines, master designers and makers specify and use CGB thin wall bearings.

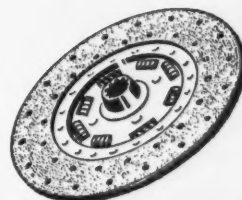
When replacement becomes necessary, master engine mechanics maintain the standard of engine performance with Monmouth Bearings. These bear-

ings are identical in every detail with the original bearings. They excel all others in finish, in precision, in quality and in engineered performance* at standard prices.

Efficient N.A.P.A. Jobbers coast to coast are anxious to give you Minute-man service on your needs for genuine Monmouth Bearings.

***NOTE:** At the 1950 Indianapolis Speed Races, engines of the first ten cars were fitted with our Clevite 77 Bearings.

All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and insure user safety and satisfaction.



Clutch Plates and Parts



Chassis Parts



King Bolt Sets



**THE CLEVELAND
GRAPHITE BRONZE CO.**

REPLACEMENT SALES DIVISION
6545 Carnegie Ave. • Cleveland 3, Ohio



Ball-bearing Swivel Wheels!

We give you "Bosco" . . . the "small-but-mighty" Strong Man among jacks! Its many engineering and design features, a few of which are shown above, make "Bosco" one of the easiest-to-handle, simplest-to-maneuver jacks on wheels! Such plus-value construction features as heavy steel frame, unbreakable malleable-iron lifting arm and durable metal dirt cover on pump, help to give "Bosco" the strength for long, efficient, satisfactory service. Once you try "Bosco," you'll never again want to work without its quick, dependable lifts. See it at your Jobber's NOW!

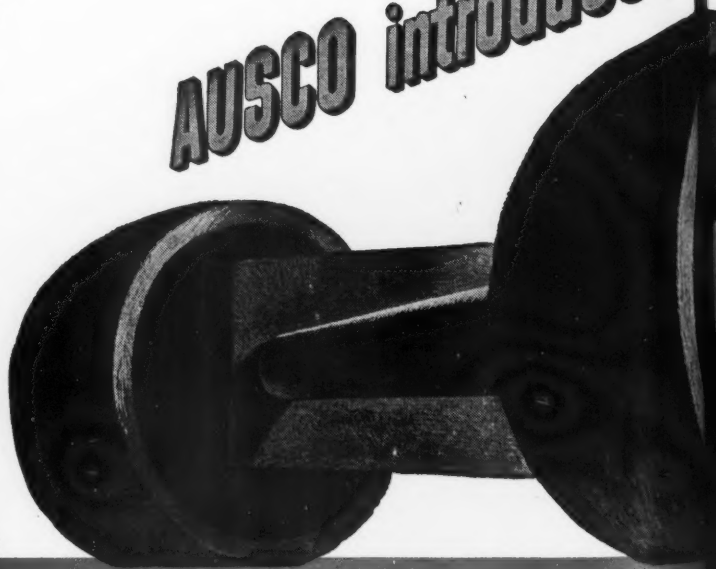
FREE 1951 AUSCO CATALOG — fully illustrated; contains complete, detailed specifications for full line of Ausco Mechanical and Hydraulic Jacks, including the new "Bosco." Write:

Auto Specialties Mfg. Co., St. Joseph, Benton Harbor and Hartford, Michigan; Windsor, Ontario, Canada.

AUSCO
Jacks

R5317R Copyright 1951 by Auto Specialties Mfg. Co.

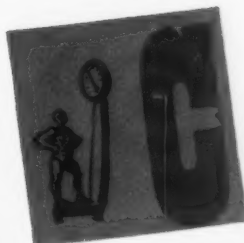
AUSCO introduces





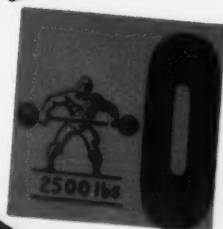
Smooth, Positive Pump Action!

Safety Margin!



Compact Design
...68 lbs. total weight!

NEW 2500 POUND curb jack



Overload Valve

...a safety factor which prevents damage to jack due to overloading!

BOSCO

For further information use postcard on page 57

54. Road Sander

Highway Safety Appliances, Inc., is producing the Skid-Master electric road sander for passenger cars. The Skid-Master makes use of a special safety grit which is said not to pack down or absorb moisture. This compound is deposited by the Skid-Master directly in front of the rear wheels at

the flick of a switch on the dash panel. The unit is installed in the trunk, one on each side.

55. Carburetor Kit

The Christy Chemical Corporation is marketing a carburetor cleaning kit designed to clean the carburetor while the car is being driven. It is for engines equipped

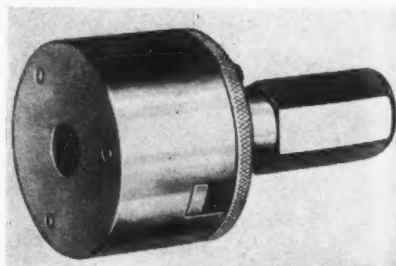
with popular type gasoline filters and can be attached in less than two minutes. The kit consists of a



metal gasoline filter bowl, complete with necessary parts, accessories and instructions for attachment in place of the conventional 2-ounce glass bowl. After the bowl is filled with Christy Drygas, the car is started and the carburetor cleaning begins. The rest of the Drygas is poured into the gas tank to complete the cleaning.

56. Stud Extractor

The New Britain Machine Company is featuring a stud extractor which is claimed to have quick, strong grip and instant release of a tight or loose stud when release is required. The tool has a 1/4 in. to 1/2 in. capacity, and the 2 in. diameter and center turning design are claimed to require minimum working clearance. In operation, the cover plate is rotated in



the direction the stud is to be turned until the jaws open. This tool is placed on the stud and turned with a wrench.

(Continued on page 152)

MEMORANDUM

*New Automotive Wet Sander
Made by National*



Model 300A

Weights 5½ lbs.—Fast—Efficient

National's new Model 300A is specifically made for automotive sanding. It is extra fast . . . operating at 2500 strokes per minute. A specially designed pad doubles its efficiency, and can be used on different surfaces without change. Built-in water outlets provide efficient wet sanding. See your jobber, or write for details.



NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILLINOIS



HEAVY-DUTY SHOCK ABSORBERS

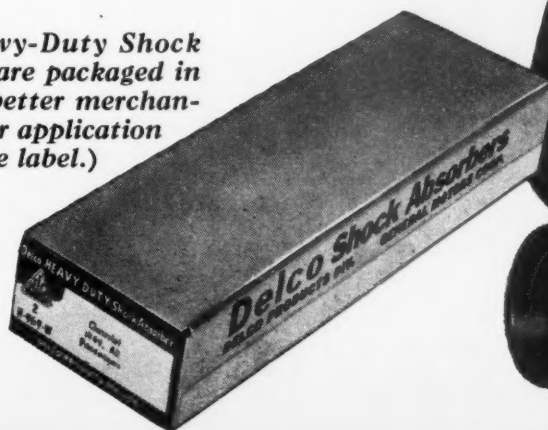
for Heavy-Duty Passenger Car Service

Wherever shock absorbers have to take a beating—as in taxicabs, salesmen's fleets, or in regions where the going is rough—that is the shock absorber that *can* take it and keep on taking it.

It's a precision-built, factory-engineered, long-lasting unit that assures balanced ride control under severe operating conditions.

These heavy-duty shocks are just the thing for your customers' cars that get extra hard use. You can replace the shock absorbers of most late-model cars and many older models with this new extra-sturdy unit, easily and quickly—no drilling, no special brackets required. Obtainable now for 14 passenger car makes.

Delco Heavy-Duty Shock Absorbers are packaged in pairs, for better merchandising. (Car application data on the label.)



**DELCO SHOCK ABSORBERS—
A UNITED MOTORS LINE**
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

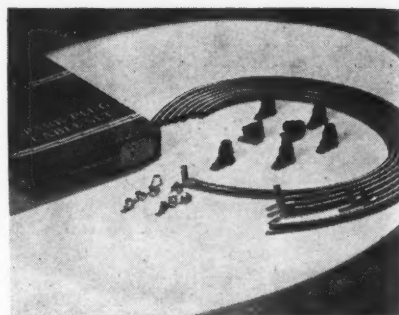
DELCO Hydraulic Shock Absorbers

For further information use postcard on page 57

57. Cable Sets

Walker of Conshohocken is featuring spark plug cable sets, designed so that a few sets will fit most cars on the road. Two series are available. Series "211" is made of cable finished in a brilliant metallic blue lacquer, which is said to combine eye appeal with high heat, cold, oil and corona re-

sistant qualities. Series "230" is finished in a black lacquer and is claimed to give long service. All sets contain the necessary cables of required length for rewiring high tension circuits from spark plugs to the distributor and from the distributor to the coil. Spark plug cables have the terminals attached. Solderless terminals and



neoprene nipples or rain guards for the distributor connections are included along with instructions for installing.

For Service Sake...

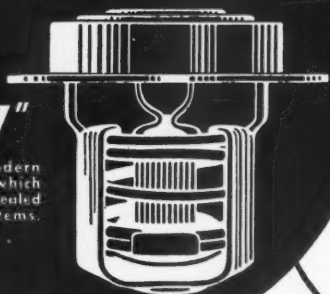
You Owe This to
Your Customers
Who Trust You

Make
Thermostat Replacement
Part of Every
Cooling System
Check-Up

DOLE

"DV"

The truly modern thermostat which stands up to sealed cooling systems.



The unique model with settings for summer and winter.

"ADJUSTABLE"

THERMOSTATS

CONTROL WITH DOLE

THE DOLE VALVE COMPANY

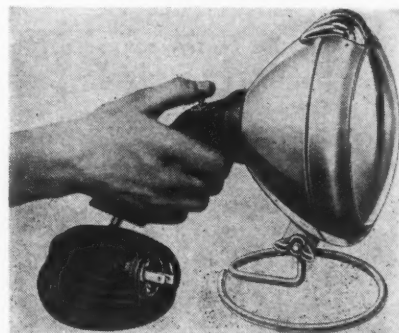
1901-1941 Carroll Avenue • Chicago 14, Illinois

58. Winter-Summer Tire

The Lee Tire & Rubber Company is featuring its Lee DeLuxe Winter/Summer tire. The tread consists of 275 snow calks, specially designed for two-way gripping, molded onto the five ribs of a regular passenger car tread design. In the winter these snow calks dig into the snow and provide positive traction. By summertime the calks have worn down to the standard riding ribs to provide smooth riding. Another feature of these raised calks is their self-cleaning action.

59. Search-Light

The Unity Mfg. Co. is showing its Unity Plug-In Search-Light. This unit features a 100,000 candle power bulb which makes it useful for automobile owners as an emergency measure. It is available for use in cars in a 6 or 12 volt model, and plugs into the cigarette lighter socket. The 30 watt bulb is of the sealed beam type. The light is made of all brass, chromium plated with a



Mahogany Bakelite Pistol-Grip handle. It is equipped with a switch, cord, plug and swivel stand, and weighs 3 lbs.

(Continued on page 154)

COMPLETE COVERAGE!



*Before the days of tops on autos,
Storm Aprons, such as the one illustrated,
were used by many early motorists.
When looking at these "aprons," it's easy
to see why tops soon became popular.*

—from Floyd Clymer's Historical Motor Scrapbooks

NOW...

Reynolds & Reynolds provides COMPLETE COVERAGE of dealer operating and control systems.

In addition to the Accounting System designed for your dealership, we offer a complete line of systems and forms for every department of your organization . . . systems that build and protect your profits. For example the Paywrite Payroll System, the Servis Control Customer Follow-up System, the Servis Dispatcher for efficient service scheduling, the Reynoco Visualizer Used Car Control System, Prospect Systems, Carbon-Interleaved Repair Orders, Time Tickets and Inventory Control Systems.

As the world's largest producer of business systems for the automotive trade, Reynolds & Reynolds is a clearing house of ideas for new and improved methods. Dealers from coast to coast send us their suggestions. Our field men, too, rub elbows with thousands of Dealers. Such "grass roots" contacts provide many practical ideas . . . ideas which are transformed into new and better products for your benefit. Use the coupon for specific information concerning these profit-producing operating and control systems.

Reynolds & Reynolds produce
several hundred sales aids and
operating systems that build
and protect your profits.

*The Reynolds & Reynolds Company
Celina, Ohio*

Please send me information on _____

Name _____

Firm Name _____

Address _____

City _____ State _____



The REYNOLDS & REYNOLDS Company
CELINA, OHIO
OFFICES IN PRINCIPAL CITIES
WESTERN BRANCH: 400 W. PICO BLVD., LOS ANGELES

"WHEN YOU HAVE TO GO AFTER BUSINESS

SERVI-CAR

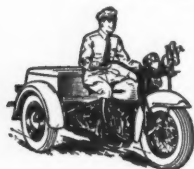
IS THE TOOL FOR THE JOB"

Says
CLYDE E. HUGHES



AND Clyde ought to know. He has used Servi-Cars continuously since 1937. His stations in Pittsburgh and Mt. Lebanon, Pennsylvania, are in highly competitive areas, where a dealer either goes after business with the most modern methods . . . or goes out of business. Clyde is prospering.

Servi-Cars can help you prosper, also. They give you the jump on competition by providing prompt pickup and delivery . . . increase your volume by drawing patronage from all over town . . . advertise you wherever they go as an operator of truly modern automotive facilities. Servi-Cars also save time on parts and accessory pickups, and keep high-priced mechanics profitably busy by bringing in and removing work on schedule.



Now, more than ever, you need the selling aid of Servi-Cars. Ask your Harley-Davidson dealer to call on you today, or write

HARLEY-DAVIDSON MOTOR COMPANY
DEPT. MA • MILWAUKEE 1, WISCONSIN

SERVI-CAR

SERVICE SELLS MORE SERVICE

AS Ideas . . .

Continued from Page 152

For further information use postcard on p. 57

60. Name Plates

The La France Precision Casting Company is featuring chrome name plates for car dealer advertising. These plates can be attached to the cars permanently so that the car dealer is advertised as long as the car he sold is on the road. The plates are made of non-corrosive metal and heavily plated with copper, nickel, and chrome.

61. Self-Locking Pin

The Elastic Stop Nut Corp. of America has developed the Roll-pin, an all-purpose pressed-fit pin. This is a self-locking pin with chamfered ends, designed to replace the variety of dowel, pivot, tapered and grooved pins, which ordinarily require a key or some supplementary fastening method to hold them in place. The Roll-pin has many automotive adaptations, such as on a vent window handle where it can replace a knurled, tapered, or grooved type pin to attach the window catch to the handle shaft. A simple straight hole is drilled through both the catch and the shaft, and the Roll-pin is pressed into place. Reaming and burnishing operations to bring the hole to exact size are eliminated.

(Continued on page 156)





DOUBLE PROTECTION!

MARTIN-SENOUR thinners and reducers are factory-packaged and factory-sealed

You know *what* you're getting and you know *how* it will perform when you use Martin-Senour Lacquer Thinners and Synthol Reducers. Accurate factory formulation and control guard the quality and characteristics. Only Martin-Senour containers are used and these are *factory-sealed*. So Martin-Senour quality gets *double protection*.

M-S LACQUER THINNERS

6286—PREMIUM THINNER for top-quality results. Perfect for hot, humid weather and when smoothest possible finish is desired.

6295—"GENERAL USE" THINNER—medium drying. Ideal for all 'round shop use with lacquer colors and undercoats.

6298—FAST-DRYING THINNER at an economical price. Often preferred for undercoats.

SYNTHOL REDUCERS

8001—FAST DRY. Ideal for cold weather or where conditions require fast drying.

8002—FLEET REDUCER. Slow-drying. Preferred for fleet and commercial work. Or for extremely hot, humid weather.

8004—SYMMETRO-FLOW. Phenomenal flow without retarding dust free or drying time.

At Your N. A. P. A. Jobber's Now.

MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois

Factory Packaging ... is the Only Positive Control from Factory to Finisher.



For further information use postcard on page 57

62. Hand Cleaner

Cresset Chemical Company announces a new solvent-type Cream Hand Cleaner, which is claimed to wipe off without water. It is rubbed in on dry hands and can be wiped off with a towel or washed off with water. Deodorized heavy naptha is used as the cleaning agent. Emollient properties

from lanolin and other fats are said to be outstanding.

63. Counter Display

Perfect Parts Inc. announces a three-color metal counter display designed to allow the jobber to show the actual operation of Perfect Valve Packing. The graphite seal built into this part makes



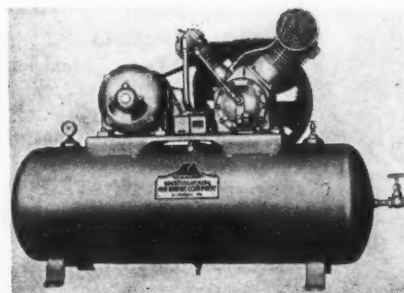
it impossible, the manufacturer claims, for oil to pass through the worn intake valve guide.

64. Turn Signals

The Signal-Stat Corporation is marketing a new directional signal set No. 704-3 for commercial vehicles. This set consists of two double faced lamps for front mounting and two flush type lamps for rear mounting, together with the No. 700 Signal-Stat Burn-out Proof Switch.

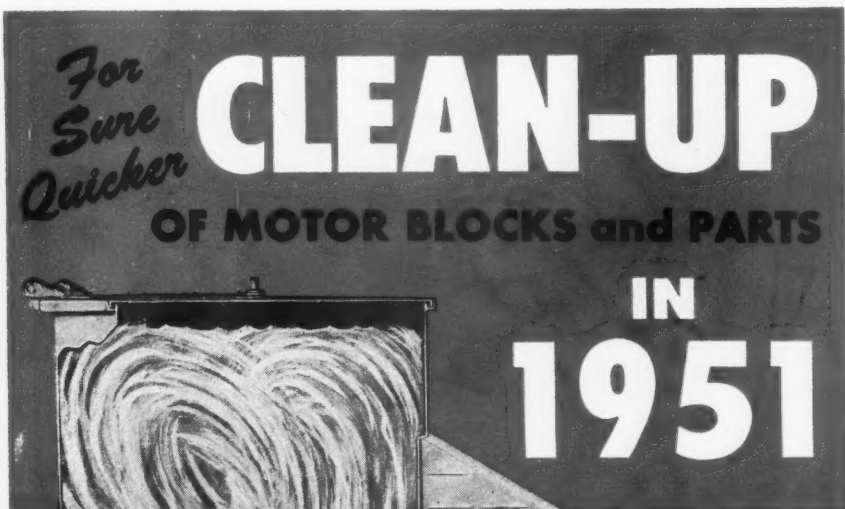
65. Air Compressor

The Westinghouse Air Brake Company is featuring an oil interlocked unloader which is standard equipment on the company's "Y" Compressors. Operated from the compressor's pressure lubricating system, the interlock is said to assure that the compressor is up to speed before air compression starts, avoiding starting overload on the motor. This interlock also



protects the compressor against dry running as any load is automatically relieved if the oil level drops below a safe level.

(Continued on page 160)



Niagara-like Turbulence

of Storm-Vulcan Turbo Blast WASHING MACHINES . . . plus heat and detergent . . . is all it takes to solve any parts cleaning problem. Those "Hard to get to" places in motor blocks are thoroughly cleaned of dirt, sludge and grease.

Ask for proof of what this outstanding Parts Washing Machine will do for you. Sizes for every requirement.

STORM-VULCAN



WASHING MACHINES

FOR DIRTY, GREASY MOTOR BLOCKS AND PARTS

Send for NEW Catalog and Complete Information

STORM S VULCAN

INCORPORATED
2504 COMMERCE ST. DALLAS, TEXAS



WE'LL HELP YOU SELL AMERICA'S FASTEST SELLING UNDERBODY COATING

Why YOUR CAR NEEDS
LION Nōkōrōde
UNDER-CAR SEALER AND SILENCER



Nōkōrōde Muffles Noises...Protects Against Rust

Only Nōkōrōde Contains **Silent-Tite***



*An ingredient that makes Nōkōrōde more adhesive, more cohesive, more dense, and a better sound-insulator. It's good-bye to annoying squeaks and rattles when Nōkōrōde "blankets" the entire underbody of your car. And it's good-bye to rust and corrosion, too... because superior Nōkōrōde gives the underbody an unbroken "coat" with no opening for rust and corrosion to get a start. For a really quiet ride... for real protection that lasts the life of your car... trust on Lion Nōkōrōde—the superior under-car sealer and silencer. Nōkōrōde is made from the finest selected asphalt by Lion Oil Company, one of the world's leading manufacturers of asphalt. Nōkōrōde is naturally black—no useless coloring matter added.

**Nōkōrōde is Guaranteed by
LION OIL COMPANY**



Made Under the Process of U.S. Patent No. 2,393,774

IT'S GUARANTEED!

WRITE, wire or phone Lion Oil Company today for Lion's complete, backed-by-advertising plan. It can bring you extra profits... in a hurry.

Nokorode sprays on thinner and dries faster because it is made in concentrated form. Actually, Nokorode forms a much tougher, more adhesive coating than other products which are applied two or three times thicker... so, with Nokorode, you save up to 1/2 your material cost per job! You profit more... because you use less material, yet get the job done faster, better and at lower cost. (Nokorode can be applied as thick as is recommended for competitive products, but

it's not at all necessary.)

Why is Nokorode superior? Lion's patented process makes Nokorode more adhesive, more cohesive, more dense, and a better sound insulator.

Made from the finest selected asphalt by Lion Oil Company, one of the world's leading manufacturers of asphalt. Nokorode is naturally black—no useless coloring matter added.

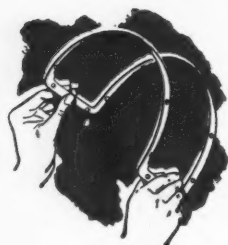
with
ADS
LIKE
THIS

IN THE
SATURDAY EVENING
Post
and
TIME

Full page advertisements like these in The Saturday Evening Post and Time pre-sell Nokorode to your customers... help you sell more Nokorode... make extra profits... faster!

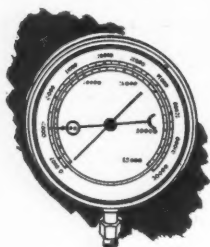
LION OIL COMPANY, El Dorado, Arkansas

NEW **E**LECTRONIC BAKING PROCESS BY ARMSTRONG-VICTOR Makes Better Cork Gaskets



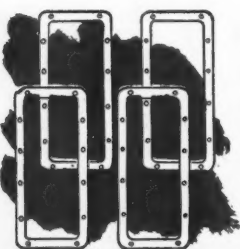
INCREASES FLEXIBILITY

Because Electronic Baking gives the cork composition greater uniformity and strength, gaskets are more pliable—easier to handle—less likely to break or crack.



ADDS RESILIENCY

Electronic Baking prevents loss of the natural liveliness of raw cork frequently destroyed by over-curing. Proved by compression tests, gaskets retain the maximum resiliency needed for lasting sealing efficiency.



IMPROVES UNIFORMITY

Electronic Baking assures thoroughly penetrating even heat almost instantaneously. No over-curing or under-curing. This gives the cork composition maximum uniformity—in density, strength, and flexibility.

Here is the greatest advance in cork gasket-making since modern Armstrong cork composition was first introduced. Fast, efficient electronic cork baking takes the place of slow uncertain steam curing. The result—stronger, livelier, better-sealing gaskets than ever before.

Naturally you'll want these improved cork gaskets for your very next job. Your jobber has them! Just ask for Armstrong-Victor cork gaskets in the smart blue and yellow striped package that's labeled "ELECTRONICALLY BAKED."

FREE OFFER! A set of 4 attractive tumbler size coasters made of Electronically Baked cork will be sent on request. No obligation. Just send your name to Victor on a penny postcard.

VIC CORKY SAYS:

Only a genuine Armstrong-Victor Replacement Cork Gasket has this exclusive trade-mark—the two notches. Insist on it.



Armstrong-Victor





HOW ELECTRONIC BAKING IMPROVES CORK GASKETS

Curing of cork is one of the most critical steps in making gaskets. The old method of forcing steam heat through the cork composition took hours—often resulted in over-curing on the outside or under-curing on the inside.

Now, high frequency Electronic Baking cures the cork composition thoroughly, evenly, in less than 5 minutes. In a flash, it sets the raw cork, binder, and other ingredients, giving the composition a strong body of maximum uniformity, with the natural liveliness of raw cork fully retained. In the finished gaskets, this results in uniform strength, increased pliability and resiliency, with highly improved sealing efficiency.

IN CONVENIENT, ECONOMICAL JOB SETS

No need to buy more gaskets than necessary for any job when you use Armstrong-Victor sets. Name the job, the make and model, and your Jobber gives you a fresh, factory-sealed package containing the necessary gaskets—no more, no less. Think of the time saved on the job with these precision-made for precision-fit Armstrong-Victor gaskets at your finger tips for every assembly. VICTOR MFG. & GASKET CO., 5750 West Roosevelt Road, Chicago 50, Ill.



ALL ARMSTRONG-VICTOR GASKETS
ARE NOW MADE BY THIS NEW PROCESS
YOUR VICTOR JOBBER HAS THEM

AS Ideas Continued from Page 156

For further information use postcard on page 57

66. Cleaner

Oakite Products, Inc., announces Oakite Compound No. 33, a new acidic-type cleaner which is said to have powerful detergent and solvent properties. It is designed to remove rust, oxide, and heat scales. It removes grease, oil and shop soils. It also is said to prepare surfaces for long-lasting

repaint jobs. It coats steel, cast iron, and aluminum surfaces with a thin phosphate base which is claimed to improve paint adhesion, protects against corrosion before and after painting, and prolongs the paint life. The manufacturer states that it is applied by wiping on large surfaces such as automobiles, trucks, etc.

FUEL PUMPS AND PARTS

PREFITTED IGNITION PARTS

The Finest Fuel Pump DIAPHRAGM In The World

Lifetime BUNALON
THE DIAPHRAGM
THAT ADDS FAME TO
KEM FUEL PUMPS
AND
FIX-A-PUMP PAKS

Kem adds fame to the finest Fuel Pump in the world. The new Bunalon single layer diaphragm eliminates destructive in-between multi-layer friction. It is coated with specially formulated Buna-N rubber which is highly resistant to practically every harmful material found in the fuel system. Lifetime Bunalon diaphragm remains flexible under extreme motor conditions.



KEM MANUFACTURING COMPANY, INC.
FAIR LAWN, NEW JERSEY

REPLACE - REPAIR - REBUILD WITH KEM

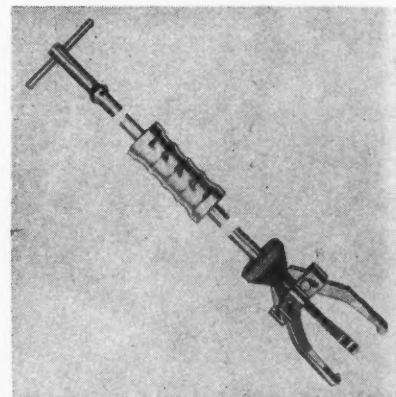
FUEL PUMPS AND PARTS

KEM

PREFITTED IGNITION PARTS

67. Slide-Hammer Puller

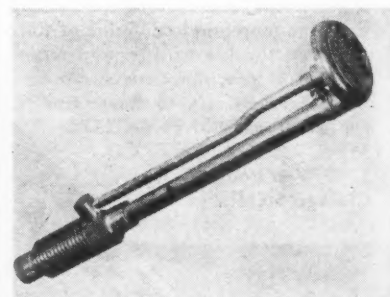
The Herbrand Division of Bingham-Herbrand Corporation is marketing the new Herbrand slide



hammer puller set. With this puller, the following capacities are possible with the various combinations: External gripping 0 in. to 7 in., internal gripping 1 1/4 in. to 7 in. Features of this puller consist of a special internal action expander head, new design puller jaws, safe new design slide hammer with comfortable hand grip.

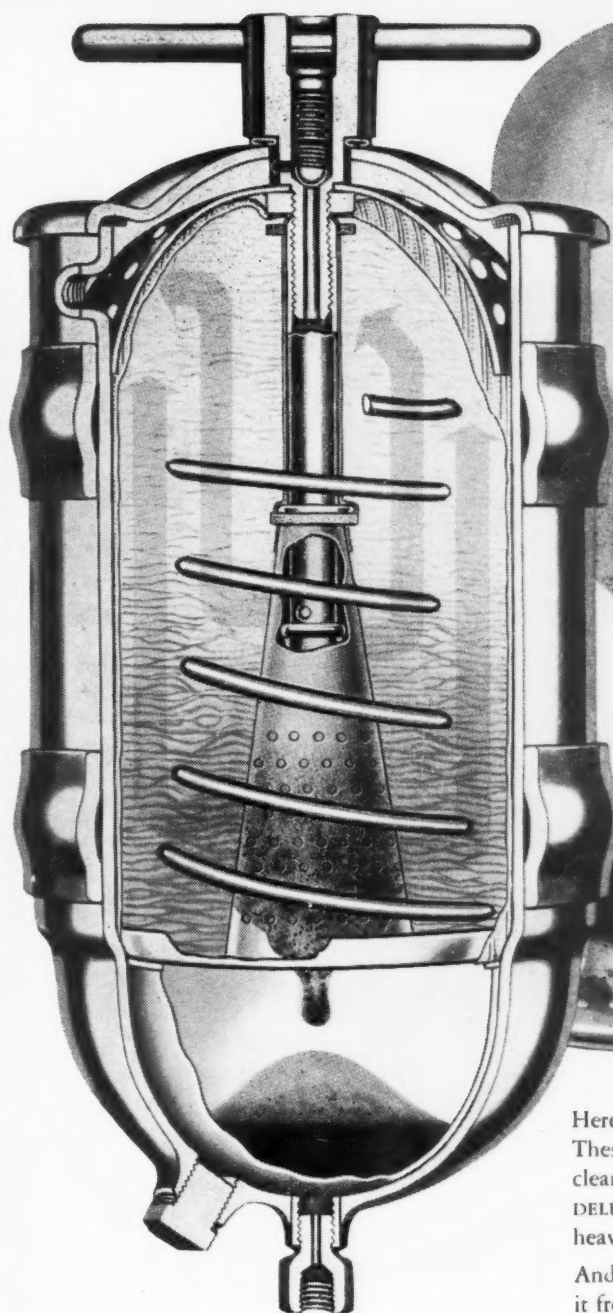
68. Exhaust Neutralizer

The Flint Corporation is manufacturing the Clear-Ex, a device to reduce deposits within automobile and other gasoline engines and to minimize the harmful effects of exhaust gases. Clear-Ex consists of a series of metal expansion tubes and an air intake valve. The device taps into the exhaust manifold. It introduces air into the exhaust system, and is claimed to dilute and reduce the carbon-laden gases in the compressed charge of live air and fuel. Another feature claimed for this device is its cooling action. It changes the superheated steam in



the exhaust gases to a moist vapor which, upon re-entering the cylinders, minimizes detonation or ping.

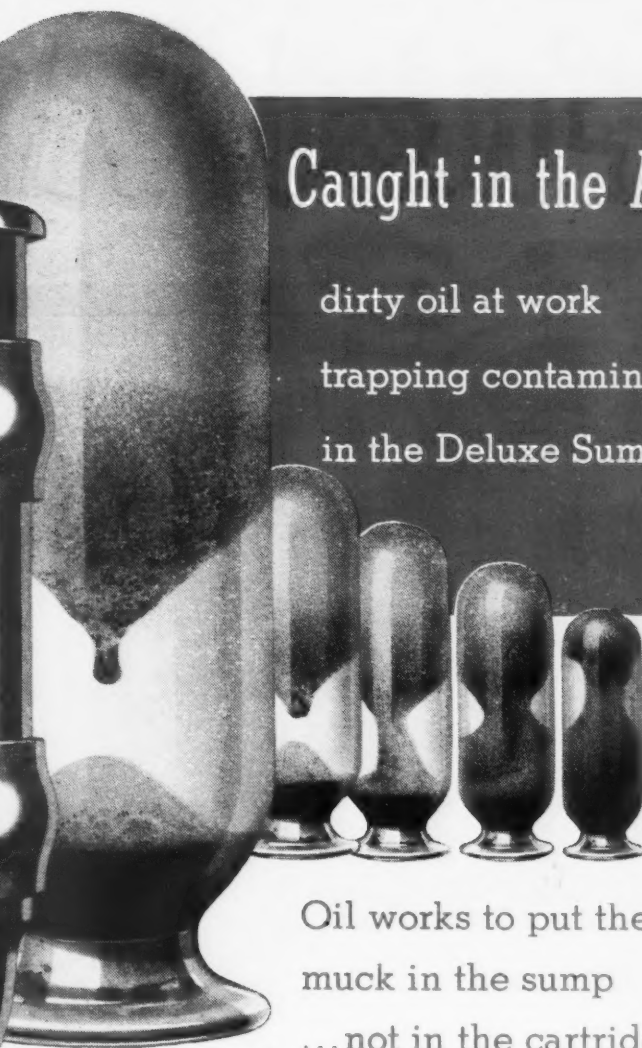
(Continued on page 164)



The built-in spring-and-cone are essential to filtration that actually cleanses oil. The spring prevents cotton from wadding and stopping oil flow. The cone feeds oil the LONG way, from bottom-to-top for thorough cleansing.

Caught in the Act!

dirty oil at work
trapping contaminants
in the Deluxe Sump!



Oil works to put the
muck in the sump
...not in the cartridge!

Here's another money-saving reason why DELUXE Cartridges last longer. These live-action photographs illustrate how oil is constantly at work cleaning itself of contaminations. This same action takes place in the DELUXE Non-Agitated SEDISUMP. Dirty oil, by its own actions deposits heavy, clogging particles at the bottom of the sump.

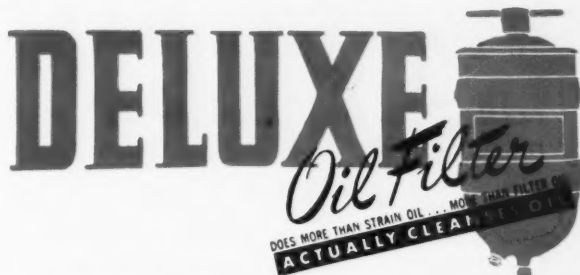
And the exclusive DELUXE SEDISUMP KEEPS this muck there... KEEPS it from clogging up the cartridge. For further filter savings, this removable sump makes sump-cleaning almost automatic. Attached to the cartridge, it is automatically cleaned whenever the cartridge is changed.

There are many other exclusive DELUXE advantages, too. Send for FREE "Key to Clean Lubrication" Booklet. Write, DELUXE Products Corporation, 1404 Lake St., La Porte, Indiana.

Be a Man Who Knows the Answers!



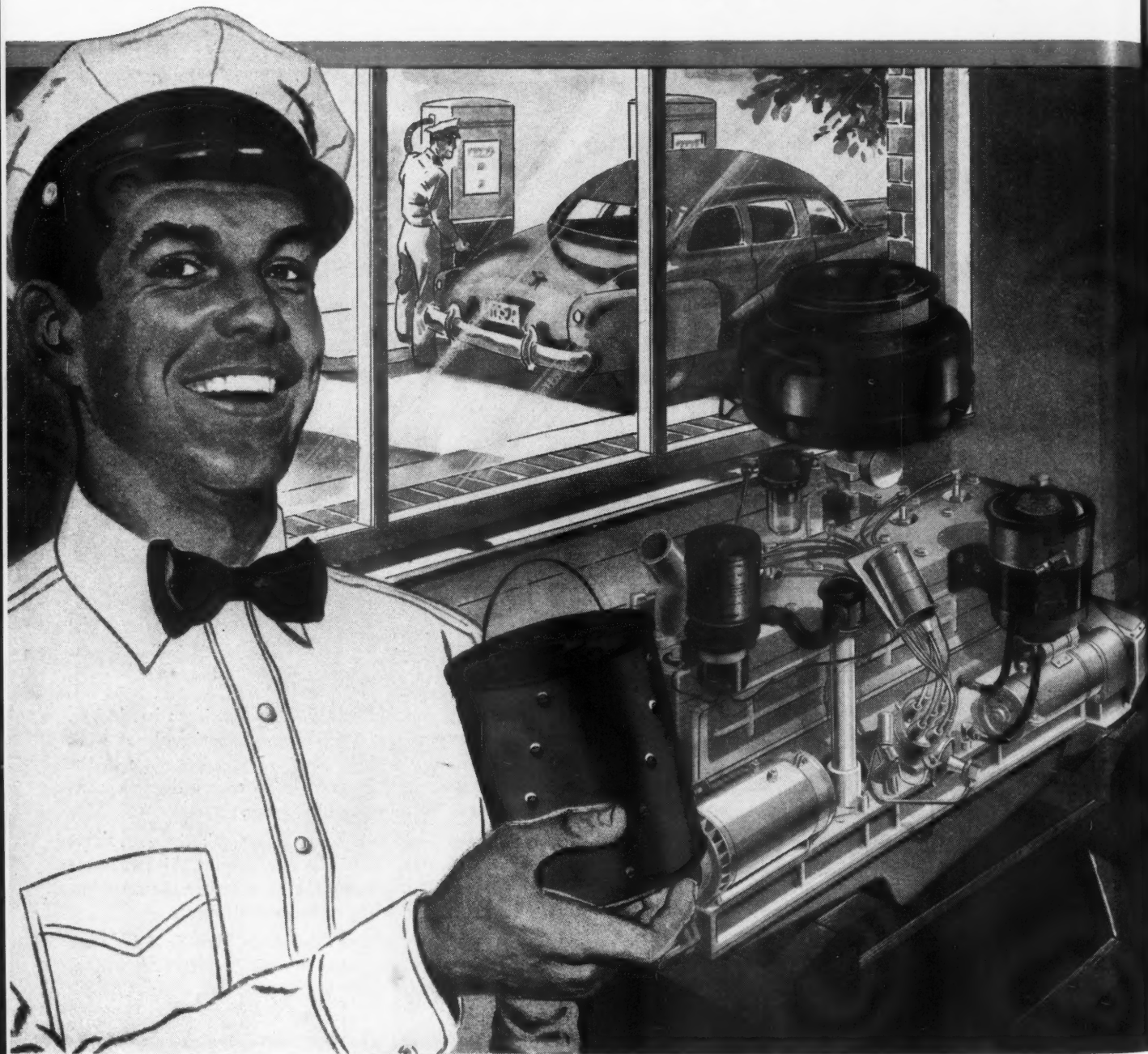
THE MEN WHO KNOW THE ANSWERS, INSIST ON



BUS OPERATORS ARE MEN WHO KNOW! Year after year they vote DELUXE the Number One filter as indicated by Winners of Bus Transportation Maintenance Awards. Of 15 winners in 1949, 14 were DELUXE users. Year after year it's the same story!

R-5327

FRAM'S hotter



In 1951, FRAM brings you the greatest team of filters in history!

FRAM OIL FILTERS AND CARTRIDGES keep profits rolling in. Every Fram Filter you sell creates an endless chain of profits on easy cartridge sales. For every Fram Filter and most every other make oil filter, there's a Fram Replacement Cartridge.

FAMOUS FRAM COMPLETE ENGINE PROTECTION!

This great team of famous Fram Filters guards engines at every vital point where deadly dirt can enter from outside or form internally. The famous Fram Oil & Motor Cleaner, Fram Carburetor Air

Filter, Fram Gasoline Filter, Fram Crankcase Air Filter and Fram Positive Crankcase Ventilator combine to seal out the harmful abrasives and remove the corrosive contaminants that rob miles from engine life. Only Fram offers you Complete Engine Protection.

NEW RADIATOR & WATER CLEANER for cars, trucks and buses. Filters, softens, inhibits. Harmless to antifreeze or other radiator chemicals. Two models cover all installations.

than ever for sales in '51



MORE SMASHING DOUBLE SPREADS, more walloping full pages in the top magazines in every field! *Saturday Evening Post!* *Collier's!* *Life!* *Popular Science!* *Farm Journal!* *Country Gentleman!* Many others! It's a blanket of **SELL** to cover your market and give you strong support!



RED-HOT NEW MERCHANDISING, including this big, rugged, eye-catching metal merchandising stand. For use outdoors or in . . . bound to boost sales wherever it's used. Helps you show 'em as you tell 'em and keeps cartridges close at hand. Ask your Fram Jobber for details.



**PLUS YOUR
FAVORITE GAL!
WESTERN UNION
OPERATOR 25**

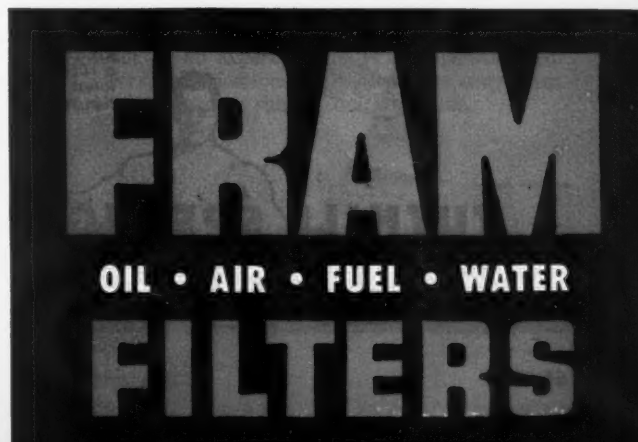
TIE UP WITH FRAM and get your share of the buyers who call her. Sign up as a Fram Dealer now! Cash in! See your Fram Jobber now! **FRAM CORPORATION**, Providence 16, R. I.
In Canada: **J. C. Adams Co., Ltd.**, Toronto, Ontario.



MORE GIANT BILLBOARDS than ever before. From coast to coast on key arterial highways, motorists will see the big, colorful reminders over 88,000,000 times each month. That means Fram is giving you over 40% more outdoor coverage than ever before in Fram history.



OUTSTANDING NEW DISPLAYS and sales aids, including this beautiful full-color window display, a whole new powerful set of stuffers, new Guarantee Poster, a new idea in Cartridge Checkers, all these and many others plus standard, time-proven Fram material.



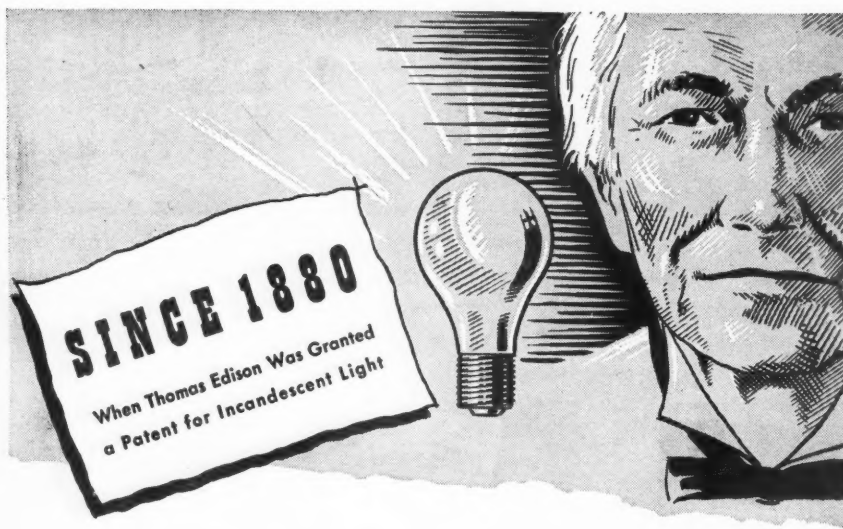
AS Ideas Continued from Page 160

For further information use postcard on page 57

69. Brake Bonder

The Barrett Equipment Company has announced the Minit-Bonder, a dual purpose machine for bonding or de-bonding brake shoes. The machine bonds at low temperatures and de-bonds at high temperatures. It is adjustable to various diameter shoes. Features of this electric bonder

include a flexible strap which applies pressure during the bond; flexible shoe holders which adjust to the exact arc of the shoes to eliminate distortion; a cam action latch which quickly tightens the hold-down strap; a selector switch which governs heat for bonding and increasing heat for de-bonding; and an adjustable



TUTHILL has specialized in the manufacture of top quality SPRINGS

There's more than steel and 70 years of EXPERIENCE in Tuthill Springs.
There's more than QUALITY . . . the finest alloy steel obtainable, heat treated for greater strength and longer life. There's also PROFIT in fast turnover for a product that is constantly in demand because it's dependable and priced right. And now there's even more . . . MOLYBDENUM DISULPHIDE (MoS_2), the newest Tuthill extra that keeps springs from squeaking and galling. What's more, Tuthill Springs are "Moly Disul" treated at no extra cost!



Ask your Jobber for a FREE copy of our latest Car Application Wall Chart.



timer which controls the time for bonding and de-bonding. A signal light indicates whether the power is on or off. According to the firm, one operator can bond or de-bond approximately 480 passenger car shoes in a single 8-hour day on the Four Shoe Minit-Bonder.

70. Filter Cartridge

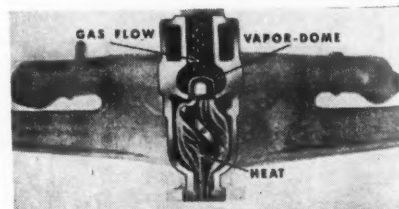
The AC Spark Plug Division of General Motors Corporation is featuring the new AC oil filter with the "Aluvac" element, now available for field installation on Cadillac and Chevrolet. The new



filter is impregnated with a special thermo-setting resin and then cured under controlled heat. This is said to render the element impervious to moisture, hot oil and crankcase acids.

71. Gas Vaporizer

The Manifold Hot Spot Corporation has developed the Vapor-Dome, an appliance designed to vaporize gasoline more efficiently. The Vapor-Dome is installed in the intake manifold and is claimed to insure proper vaporization of gasoline, reduce carbon formation, improve combustion, eliminate excessive choking, prevent too rich mixture, cut down crankcase dilution, and prolong life of



valves. It is said that it will not burn out or expand under great heat.

(Continued on page 166)

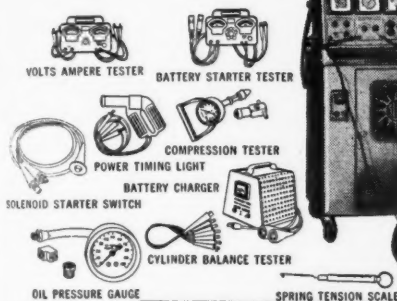
Science comes to the Mechanic's aid...

To Save Time...

...Work...Increase Earnings...

...Eliminate Comebacks!

The shortest distance between two points—between the initial inspection of an engine and the completed repairs—is the straight line of Scientific Diagnosis. Why try to match wits with the unfailing precision of modern electronic testers? Why not use this equipment to make your job easier, to save precious hours of time, to insure customer satisfaction and increased earnings?



Locate the Exact Cause of Engine Failure

With the SUN Master Motor Tester you cut out the guesswork, the unnecessary work and the uncertainties of completed repairs. You compare accurate, dependable, conclusive test results with the manufacturer's specifications. You know exactly what needs to be done and you know when the job is done right. All of this is done in a minimum of time with a minimum of work and with assured customer satisfaction.

To insure the most efficient Diagnosis Procedures and maximum time-saving, work-saving benefits from this equipment, SUN furnishes a complete 112-page Diagnosis Procedure Manual with each Master Motor Tester. Present owners of SUN Equipment can obtain additional copies of this new Diagnosis Procedure Manual for \$1.00 per copy.

Heavy-Duty Accessories for Truck and Bus Testing are Available! SUN Master Motor Testers equipped with 15 foot leads are available for truck and fleet shops. Heavy-Duty Battery Starter Testers, Volts Ampere Testers and Power Timing Lights are also available for 6- and 12-volt systems.

GET THE COMPLETE STORY...

write for your copy of the new SUN Scientific Automotive Service Equipment Catalog. It's yours without cost or obligation!



Sun

ELECTRIC CORPORATION

6353 Avondale Avenue • Chicago 31, Illinois

R-5096



Accurately Test and Adjust All Distributors

It's good practice to check distributors every 5,000 miles! With the SUN Master Distributor Tester this job is quick and easy. You can test and recalibrate any make or model distributor to the manufacturer's original specifications. You can detect wear, leaks in vacuum advance units, dwell settings, synchronization, etc. and assure customers of precision timing. Operation is clear and simple.



Generator & Regulator Service and Overhaul is Simple

There's no need to job out this work when you have the SUN Generator & Regulator Tester. You can test and repair all 6- and 12-volt generators and regulators right in your own shop with factory efficiency. The new SUN Generator & Regulator is designed and engineered for the average mechanic... you need not be an expert to master its operation. All manufacturers' specifications are shown on a convenient roll chart—hookups are simple, quickly made.

AS Ideas Continued from Page 164

For further information use postcard on page 57

72. Portable Lift

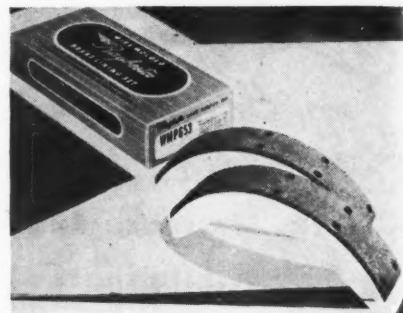
The Bay Mfg. Co. is featuring the Bay-Lift, a portable pneumatic lift for use in steam cleaning racks, body and fender departments, auxiliary greasing, shock absorber service, front end work, undercoating and so forth. The Bay-Lift will raise either end of the car to 50 in. with safety, the

manufacturer states. The load is supported by an air tight cylinder and made doubly safe at any height by an automatic safety lock.

73. Lining Sets

Raybestos Division of Raybestos-Manhattan, Inc., announces that Raybestos wire molded sets of brake lining are now available

factory-packaged for all models of Ford, Chevrolet and Plymouth cars and trucks as well as for most models of other popular cars and trucks. Wire molded sets are made of a lining which features a new



drop center warp that is said to assure a uniform flat surface.

A NEW DIMENSION IN CLUTCH SERVICE

Do a *better* clutch job in *less time* and *make more money* for yourself by installing ReNu-Accurate Clutch Sets. This complete clutch unit is a "natural". For it gives car-owners *more miles of good clutch service.*

... and you're SURE ...

... of full clutch release and smooth clutch engagement on *every* job!

Cost the Same ...

You buy and sell this clutch set at exactly the same total price as that of a new Accurate Powerflex plate and a rebuilt Re-Nu assembly. So you and your customers get the **PLUS VALUES** of a matched, mated, tested, balanced, complete clutch unit at *no extra cost!*

Write for FREE Catalog & Prices!

**EXCHANGED OR SOLD OUTRIGHT!
FOR ALL POPULAR CARS AND TRUCKS**

Accurate PARTS MFG. CO. 12435 Euclid Ave.
Cleveland 6, Ohio

MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

REPLACEMENT UNIT CO. 1505 Rockwell Ave.
Cleveland 14, Ohio

REBUILDERS OF GUARANTEED CLUTCH ASSEMBLIES



Consist of a

New POWERFLEX Plate

PACKAGED TOGETHER WITH A

Rebuilt RE-NU Assembly

MATCHED • MATED • TESTED

BALANCED • COMPLETE

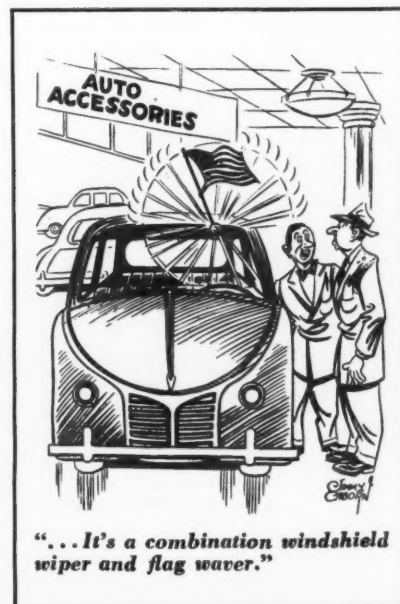
CLUTCH UNITS



74. Impact Wrench

The Independent Pneumatic Tool Company announces a new Thor $\frac{5}{8}$ in. "Silver Line" universal electric impact wrench. It is designed for heavy duty nut setting jobs on trucks, buses, and other heavy automotive equipment. Operating at 2000 rpm, the wrench will deliver 1850 impact blows per minute both forward and reverse. It weighs slightly over 12 lbs. and measures $11\frac{3}{4}$ in. overall. The tool is equipped with a detachable dead handle. The Thor wrench has a $\frac{5}{8}$ in. square spindle and will drive machine screws up to $\frac{5}{8}$ in. and up to #22 wood screws.

(Continued on page 170)



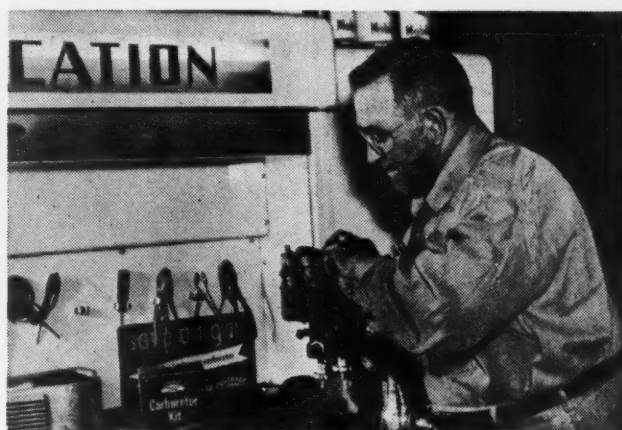
"... It's a combination windshield wiper and flag waver."

'The best idea for repairing carburetors we've seen yet'

say Francis and Larry Fugliese
of Armand's Fuel Company
131 Davis Street
Oakville, Conn.



"We previously did very little rebuilding of carburetors in the shop," report the Fuglieses. "Now, using the Fingertip System, we can rebuild a carburetor completely, ourselves, in about one hour."



"It's helping us to build a reputation around here for expert carburetor work," says Larry Fugliese. "Our carburetor repair business has gone up about 75% since we installed our Hygrade Rebuilding Dept."



save on gas
It is worth your carburetor too!
HYGRADE SYSTEM

\$69⁷⁵ complete!


Includes the priceless Hygrade Manual, assortment of 20 kits to repair all Chevy, Plymouth, Ford carburetors; all the tools and equipment you need; cabinet; a continuing bulletin service; metal signs, outdoor banner, etc. (This outfit is worth over \$100.00.)

Better your business all around by rebuilding carburetors in your own shop. You build a name for A-1 motor repair work by knowing carburetors inside-out. You can stake your reputation on a rebuilt because you *know* you put in all new parts. And you make more profit on every carburetor job. Find out how the revolutionary Hygrade system can *make you a carburetor expert in one week's time*. Write today for free booklet. **HYGRADE PRODUCTS DIVISION**, Standard Motor Products, Inc., 35-35 Thirty-fifth Street, Long Island City 1, N. Y.

HYGRADE


FINGERTIP SYSTEM of CARBURETOR REBUILDING

by the makers of Blue Streak Ignition Products



Up on the roof goes Model 87 SKIL Saw. Here a repair is in progress on a Fruehauf Stainless Steel Trailer that had been in a major accident. Damaged areas on sides, top, posts, skirting and rub rails were all sawed and patched with SKIL Saw . . . the veteran Model 87 SKIL Saw that has been taking the tough cuts in stride at Fruehauf's Chicago Branch for eleven years!

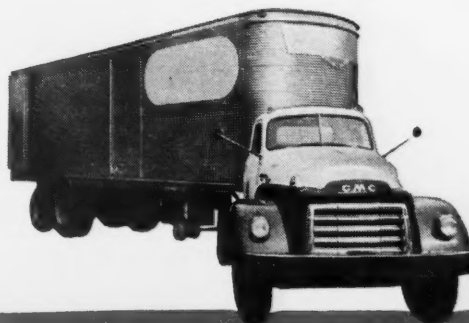
120 SKIL Saws speed repairs



This Model 87 SKIL Saw is eleven years old—and you'd hardly believe it if you could see the sharp, clean cuts it makes in the side of this husky Fruehauf Stainless Steel Trailer. A few more fast cuts and this job will be ready for patching . . . patching so smooth you'd have trouble finding the damaged area.



Floor repairs in a Fruehauf Stainless Steel Trailer are a cinch with SKIL Saw. Powerful, dependable, easy-to-handle SKIL Saws simplify tough sawing of wood, metal, tile and other materials. Heavy duty motors and precision gears insure long life even when SKIL Saws are kept in constant use.



Repairs on Fruehauf *STAINLESS STEEL* Trailers

Fast, powerful SKIL Saws easily cut damaged sections of these light, strong stainless steel trailers!

It takes a lot to damage these rugged Fruehauf Stainless Steel Trailers — but if repairs are called for, SKIL Saws make fast work of them *right in the shop!*

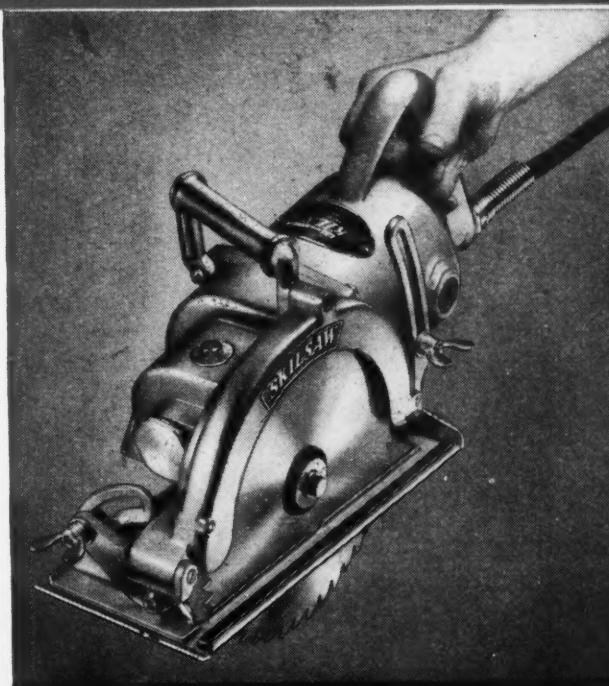
Follow the example set by the efficient Fruehauf Branches who use 120 SKIL Saws in their service departments to remove damaged areas and cut out repair patches. These branches have used fast-cutting, dependable SKIL Saws for years—have relied on SKIL Saws to provide the power for cutting .016 to .060 stainless steel.

Study these "on-the-job" photos. Then put SKIL Saws to the test. Remember—SKIL Saws, Drills, Bench Grinders, Auto Polishers, Valve Refacers, Valve Shops and other famous SKIL Tools can add to the efficiency of your automotive shop. Ask your jobber to show you the big SKIL Line today!

SKIL Products are made only by
SKILSAW, INC.

5033 Elston Ave., Chicago 30, Ill.
Factory Branches in Principal Cities

In Canada: SKILTOOLS, LTD., 66 Portland St., Toronto, Ont.



SKIL

PORTABLE TOOLS



SKIL Saws SKIL Sanders SKIL Grinders SKIL Sanders SKIL Drills SKIL Shear SKIL Grinders

AS Ideas Continued from Page 166

For further information use postcard on page 57

75. Steam Cleaner

The Clayton Manufacturing Company has announced the Model HR-OEP Kerrick Kleaner. This is an oil-fired, portable, combined steam cleaner and high pressure rinse unit which is oil-fired, and with either electric drive or gasoline engine drive. Among the features reported for

this unit are a submerged soap pump of the self-priming type, with a single discharge valve to guarantee a uniformly controlled solution mixture; a full range of working pressures from 30 pounds for paint stripping to 100 pounds for heavy duty cleaning, and rinse pressures up to 150 pounds; increased fuel capacity and a 25 per

cent larger soap concentrate tank; fewer pipe and tubing connections and a simplified arrangement of all working parts concentrated at table height under a hinged hood.

76. Wiper Motors

The Anderson Company has produced two new windshield wiper motor models to provide dealers with complete service range with



replacements for all vacuum wiper motors on 1935 and later vehicles, except a few rare models. Anderson now provides a complete Anco Windshield Wiper Replacement Service Department for even the largest dealer, but requires only 17 by 22½ in. space for two metal cabinets.

77. Body Tools

Stream Line Tools, Inc., announces five new tools for use in body and fender work. First of these, No. 108 roughing out hammer, is said to be heavy enough to raise tough fender dents and can be used as a "setting" hammer and on frame work. No. 116 extra long pick hammer is for use on new car doors, deep fenders and other difficult places on '48, '49, and '50 cars. No. 248 door panel spoon is used in narrow places where old type spoons will not fit. No. 249 slapping tool is a fast roughing out tool. The last one, No. 250, is the cowl and fender bracket spoon which is good for all close jobs or as a light hand dolly.

(Continued on page 174)

**Now Available in
PACKAGED SETS!**

**REMEMBER
THE MAIN
Bearings...**

**WORN MAINS CAN OIL-STARVE AND
CAUSE FAILURE OF ROD BEARINGS**

Main bearings usually don't get the pounding and wear that rod bearings get. But a worn main can cause real trouble! Because of excessive oil leakage at that point, the rods can become oil-starved and soon fail. When an engine is opened up it costs little more to do the whole job and replace the main as well as the rod bearings. Always check the mains! When worn, replace in sets with Genuine Federal-Mogul Bearings, engineered for the job of oil-control!

FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

Ask Your Federal Mogul Jobber!

The Complete Line—
More Than 7,000 Numbers
Engine Bearings (Main, Connecting Rod and Camshaft)
• Bushings • Connecting Rod Exchange • Recon-



ditioned Connecting Rods •
Rebabbitted Connecting Rods • Connecting Rod Bolts and Nuts • V-Seam Piston Pin Bushings • Bearing Metals • Laminated Shims

OVER FIFTY YEARS OF CONTINUOUS BEARING EXPERIENCE

GET YOUR SHOP IN SHAPE . . .

Add a Profitable Steering Service Department
WITH A MINIMUM INVESTMENT

John
BEAN

**MECHANICAL ALIGNERS
MECHANICAL BALANCERS**



Prepare now to increase your service business — build volume with a profitable steering service department. You can put your shop in shape with a minimum investment with John Bean mechanical wheel aligners and balancers. Wide runways, full-floating turntables, removable runway sections, direct reading scales, precision V-way slides and underslung checking gauges for skirted fenders are a few of the features of John Bean mechanical aligners available in a complete range of sizes. John Bean's 55J Wheel Balancer tells you exactly how much weight to use, and exactly where to place it. Ask your jobber today for full information . . . John Bean mechanical aligners and balancers will give you a profitable steering service business at a minimum cost.

JOHN BEAN DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION

LANSING 4, MICHIGAN



WHEEL ALIGNERS AND CORRECTION TOOLS · WHEEL BALANCERS AND BALANCING TOOLS
WEIGHTS · STEAM CLEANERS · CAR WASHERS · HEADLIGHT TESTERS

AS Ideas Continued from Page 170

For further information use postcard on page 57

78. Body Repair Kit

The Blackhawk Manufacturing Company is offering a metal stretching and clamping kit, a new addition to the hydraulic Porto-Power line of equipment for use in body repair shops. Included in the kit is an assortment of various pulling clamps and a hydraulic pull-ram, two chain

grips, a pull-head and four washers, two body stretchers and clamps, and fender clamps. The kit is designed for pulling, stretching, and straightening all body sections, fenders, hoods, etc. The pull-ram, which weighs 4½ lbs., has a 1½-ton capacity and is interchangeable with the company's other bantam rams.

for friendly, local service

. . . prompt delivery

. . . maximum value

order your welding and cutting equipment

from

local merchants

displaying

this trade mark



This trade mark identifies a responsible, local business man—one of more than 800 covered by Airco's nation-wide dealer organization—who is in a position to offer you high quality welding and cutting equipment—immediately from stock.

Drop in and see him today—he'll be only too glad to give you full information about Airco's entire line.

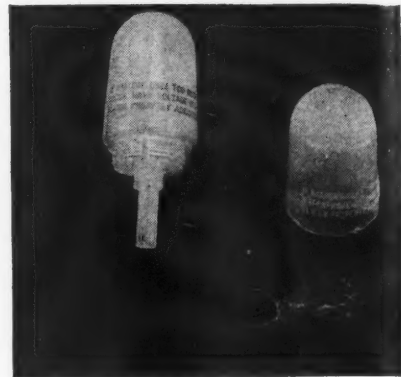


AIR REDUCTION

AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Offices in Principal Cities

79. Battery Caps

Sav-A-Battery, Inc., has introduced globular filler caps for batteries, made of transparent poly-



ethylene. These caps are designed to show at a glance whether a battery needs water or if it is using water excessively.

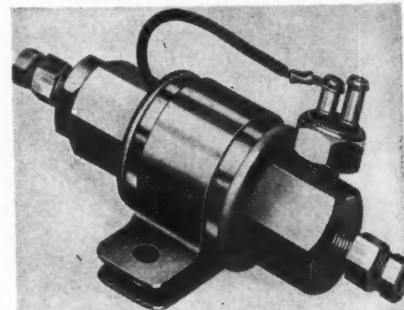
80. Hardware Catalog

Lion Auto Parts & Mfg. Co., Inc., have released their new 52-page Body Hardware Catalog in which is listed a complete line of handles, hinges, locks, bumper bolts, window regulators and channels, glazing supplies, welts, etc.

81. Brake Lock

Minnesota Automotive, Inc., is manufacturing the Mico Brake Lock, a unit which furnishes hydraulic four-wheel or rear-wheel holding power through an electrically controlled snap-on dash switch. The brake lock, when installed in the hydraulic brake line, operates in the following manner:

1. The driver snaps the dash control to emergency lock position.
2. He pushes the brake pedal and



releases it. 3. The brake lock maintains the pressure applied in the braking system until the switch is turned off. Installation is said to be simple and will not interfere with normal brake service.

(Continued on page 174)

"Your first lesson in
successful brake service is...

CHOOSE THE FINEST PRODUCTS!"

GRIZZLY SYNCRO-SETS®
Drilled and countersunk segments for passenger cars and light trucks

GRIZZLY Softibond®
The original lining with factory-applied bonding agent

GRIZZLY SILVERTIP®
Rigid type, heavy duty materials specially designed for multi-stop operations

GRIZZLY HEAVY DUTY BLOCKS
Aluminum backed brake blocks for extra heavy duty truck applications

GRIZZLY has been making the
finest brake products you can sell
for over 32 years!

If the first lesson in successful brake service is the selection of fine products, the second is: pick the line that's most aggressively promoted! By both these standards, Grizzly scores top-high. Millions of successful applications on cars and trucks for over 32 years prove Grizzly's quality. And you have only to look at The Saturday Evening Post or Collier's to see how effectively Grizzly promotes brake service for you! For details on the complete Grizzly line, including brake parts and fluid, call your Grizzly Distributor! Soon!

Grizzly Manufacturing Company, Paulding, Ohio.

Investigate Grizzly Power Bonding—the most practical, versatile, and economical bonding process obtainable!

Bear in Mind  ... ask for

GRIZZLY
REG. U.S. PAT. OFF.
BRAKE LINING

AS Ideas Continued from Page 172

For further information use postcard on page 57

82. Engine Heater

The General Electric Company is featuring a car engine heater called the "Calrod" engine heater. It is designed to eliminate cold weather starting troubles by pre-warming the coolant in the engine block. It consists of a G-E Calrod tubular heater which is installed by inserting it into a small hole

cut in the lower radiator hose. Two screws clamp the hose between the terminal guard and the base plate of the heater, making a permanent joint.

83. Display Lights

The S & M Lamp Company is marketing a line of Cluster-Lites for use in used car lots, service

stations, service yards, etc. Called "Red Cappers," the units can be used in hundreds of combinations, depending on the requirement. A feature of the "Red Capper" is the slip-fitter cluster box. It has openings on either end and can be mounted on a 1½ in. or 2 in. pipe. The top cap fits the opening not in use. The "Red Capper" line also offers vertical and horizontal aiming quadrants for Cluster-Lite lamp holders.

84. Rear Axle Dollie

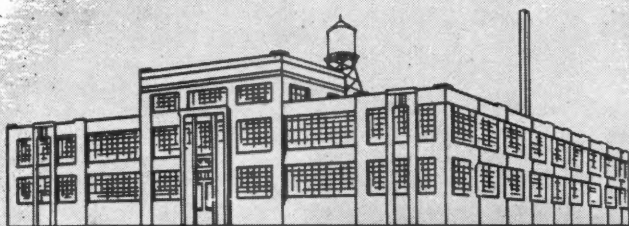
K. R. Wilson announces a new "dollie" for servicing rear axles on all cars, trucks, and buses. It grips the axle in two vise-like clamping jaws which may be



moved closer together or farther apart to grip all sizes of axles at the place where maximum holding power can best be obtained. Axle halves can also be separated and swung to position.

(Continued on page 178)

The HOUSE behind the Product



EDELMANN
THE NAME BEHIND THE FAME!
EDELMANN

Automotive Parts and Equipment

For 42 years, the HOUSE OF EDELMANN has preached and practiced *quality in every detail*. Strict adherence to high standards of materials and workmanship has paid continuous dividends in proved product superiority.

By specializing in *basic* automotive replacement parts and equipment, Edelmänn provides its jobbers with items in continuous demand. And as the originator of unique and aggressive merchandising methods, Edelmänn promotes prestige and profits for its jobbers and dealers.

E. EDELMANN & CO.

CHICAGO 47, ILLINOIS

Manufacturers of Automotive Equipment Since 1909

ANTI-FREEZE TESTERS
BATTERY HYDROMETERS AND FILLERS
BATTERY SERVICE KITS
IGNITION TIMING LIGHTS

FLEXIBLE FUEL LINES • BRASS FITTINGS
HIGH PRESSURE GREASE HOSE
TUBE CUTTERS AND BENDERS
FLARING TOOLS



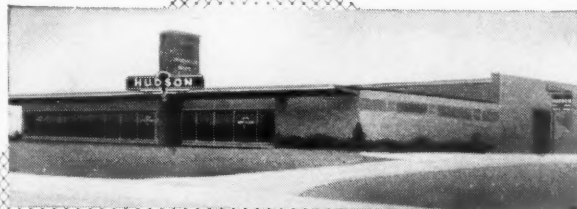
"The man is here to pick up those dead batteries."

193 NEW DEALERS IN 90 DAYS!

Proof that HUDSON gives you a winning hand



Typical Showrooms of
representative dealers who have
recently joined Hudson



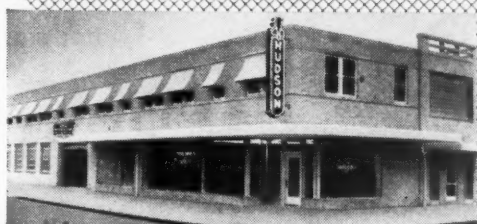
MOBERLY, MO.



SANTA BARBARA, CALIF.



GREAT NECK, L. I., NEW YORK



GALVESTON, TEXAS



MUNCIE, INDIANA

Everywhere good dealers are going to Hudson!

193 new dealers signed with Hudson in 90 days! 54 of them previously represented competitive makes!

Yes, the big swing is to Hudson because the Hudson franchise opens the way for a sound business, steady profits. Dealers who know say it's the fairest, most liberal franchise in the business.

And here's what Hudson offers you—*now!*

The fabulous Hudson Hornet with its sensational new H-145 engine—the car with *performance unlimited!*

The Hudson Hornet is the star of Hudson's four rugged series for '51—including the lower-priced Pacemaker, renowned Super-Six, and luxurious Commodore for *blanket* market coverage.

And Hudson offers you the unequalled loyalty of more than 400,000 owners of "step-down" designed Hudsons.

Right now, there are Hudson dealer opportunities open in several areas for men who want action—and profits!

For complete information—write, wire, or phone C. A. J. Hadley, General Sales Manager, Hudson Motor Car Company, Detroit 14, Michigan—*today!*

THE BILLY ROSE SHOW

Supports Hudson dealers weekly on
coast-to-coast ABC-Television

for a more

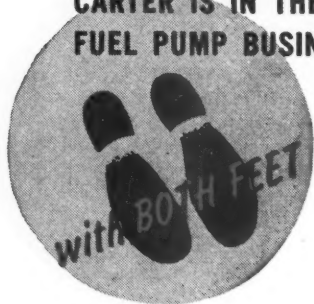
PROFITABLE

and for More Satisfied* Customers

1951
STOCK SERVICES



CARTER IS IN THE
FUEL PUMP BUSINESS



NATIONALLY ADVERTISED in the
Saturday Evening Post, Country Gentleman
Popular Mechanics

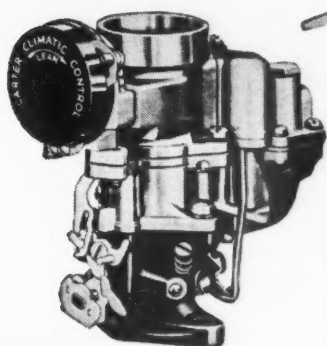
*Customers "repeat" because they can depend on the performance of Carter products

SELL

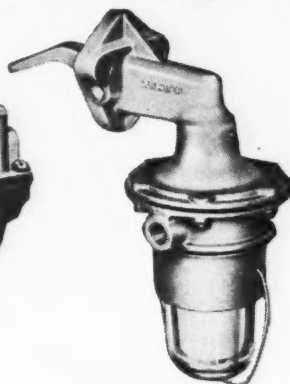


CARTER

Fuel System PRODUCTS



CARBURETERS



FUEL PUMPS



FUEL FILTERS

Installed as original equipment on leading makes
of automobiles and trucks

See Your Nearest Distributor, Dealer or Jobber

CARTER CARBURETOR CORPORATION, St. Louis 7, Missouri
Division of American Car and Foundry Company



AS Ideas Continued from Page 174

For further information use postcard on page 57

85. Pump Filters

Commercial Filters Corporation is producing new streamlined twin tube Fulflo filters for attaching to gasoline or Diesel fuel dispensing pumps. These filters are designed to remove rust, scale, dirt, sludge, slime, gum-forming and carbon-forming impurities and all suspended solids. These filters are

said to be capable of filtering up to as much as 100,000 gallons before it is necessary to renew the filter tube.

86. Voltage Regulators

The American Bosch Corporation is featuring the "3 for All" line of voltage regulators which make it possible to stock only

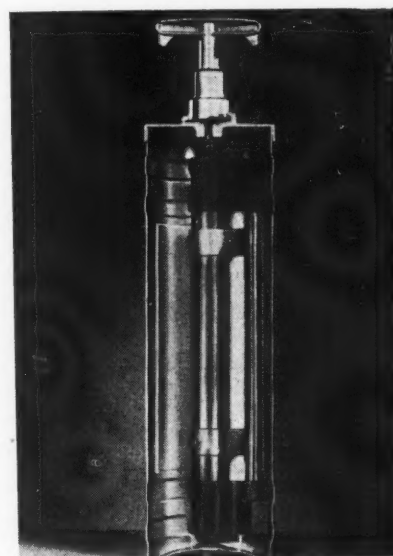
three types to cover most passenger cars and many trucks. The keynote of the regulator line is the



"3 for All" Kit, an assortment of each of the three types of regulators packed in a unique shipping container which becomes a shelf or counter display for the dealer.

87. Fire Extinguishers

The Buffalo Fire Appliance Corporation has designed a new fire extinguisher which has features of interest to repair shop operators. Called the Buffalo VL (vaporizing liquid), it is said to be safe for squelching electrical fires because of its non-conducting qualities, and it is also highly effective against paint, grease, and inflammable liquid fires. The new Buffalo VL utilizes a pump princi-

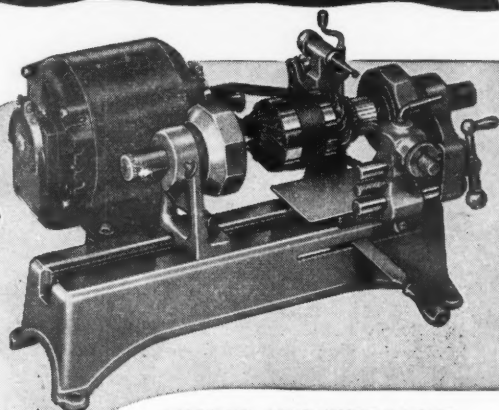


ple to direct a long steady stream into inaccessible locations. Upon contact with the blaze, the non-freeze liquid turns into heavy gas which smothers the flames.

(Continued on page 180)

THIS TRUCUT PACKAGE REALLY PUTS YOU IN BUSINESS!

GET EXTRA PROFITS from Starter-Generator Work!



TRUCUT ARMATURE LATHE AND UNDERCUTTER

There's plenty of extra profit in starter-generator work . . . if your shop is equipped to handle it!

And you can handle it with these three TRUCUT tools . . . all tried and tested . . . all designed especially for automotive repair jobs! With them, you can machine and undercut commutators perfectly; test for shorts, open circuits, and grounds; make quick, easy work of dismantling and assembling generators. The TRUCUT Press is also useful on dozens of other jobs around your shop.

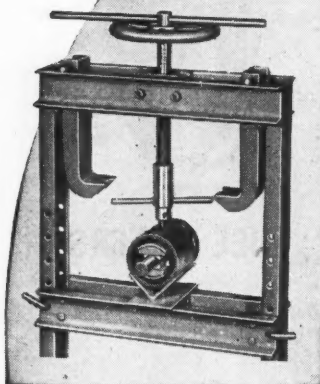
This TRUCUT package actually pays for itself in an amazingly short time. Enables you to handle work you are now sending out . . . or helps you to do it more quickly and profitably! Write for free details today.

FRANK N. WOOD CO.

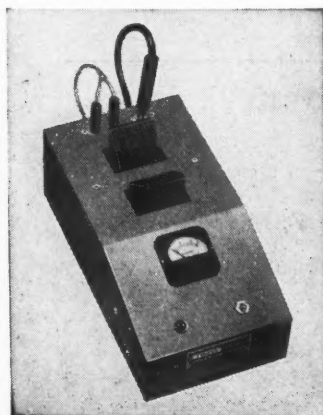
... SINCE 1933

TRUCUT

344 W. Main Street • Waukesha, Wisconsin
Pacific Coast Address
1330 W. Olympic Blvd., Los Angeles 15, Calif.



TRUCUT SHOP PRESS



TRUCUT ARMATURE TESTER

REPLACE WITH O.E.* LEADER!

MORaine ENGINE BEARINGS

Assure Your Customers of Long, Dependable Service

Moraine engine bearings, used for replacement, are your best assurance of continued customer satisfaction. You can depend on Moraine for high quality . . . for long service. Moraine engine bearings are the choice of General Motors for original equipment on all General Motors cars and trucks. Moraine replacement bearings are available for the entire General Motors line and for every other popular make vehicle. The widespread United Motors Service organization distributes Moraine engine bearings throughout the country.

MORaine OFFERS ALL THIS:

ALL TYPES FOR ALL VEHICLES—The Moraine engine-bearing line includes most of the country's 35 to 40 million motor vehicles.

GENERAL MOTORS APPROVED—Moraine makes the only original-equipment bearings on the market for all General Motors cars and trucks.

DUREX-100—The famous Moraine bearings used by Oldsmobile, Buick, Cadillac, GMC trucks and others—the only replacement bearing of its type.

STANDARD TYPE—Steel-backed babbitt-lined replacement bearings for all popular cars and trucks.

OLD AND NEW MODELS—There are Moraine bearings for all General Motors vehicles, and many others, dating from 1935.

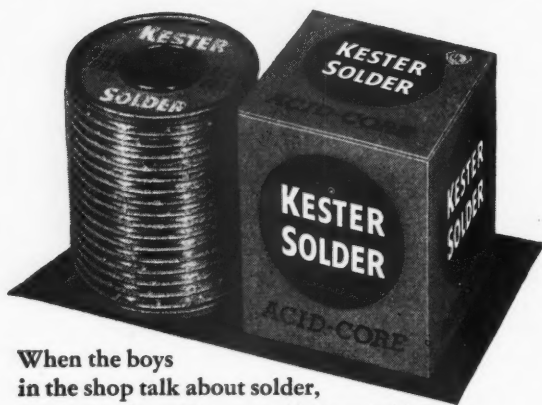
*O.E.—original equipment



MORaine BEARINGS
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

MORaine PRODUCTS
DIVISION OF GENERAL MOTORS
CORPORATION, DAYTON, OHIO

Kester Solder



When the boys
in the shop talk about solder,
they talk about Kester Acid-Core Solder;
the old reliable product now in a new package.

Easier to Use

Mechanics know that using Kester makes any
soldering job easier. Kester contains more grade
A newly mined Tin and only virgin lead, too.
The fluxes are chemically and scientifically
correct.

Faster

Kester is faster to use. Mechanics prefer it and are
more satisfied when using it. The work is speeded
up and output is increased.

Kester Solder Company
4201 Wrightwood Ave., Chicago 39
Newark, N. J. • Brantford, Canada

**KESTER
SOLDER**



The Mechanics Standard since 1899

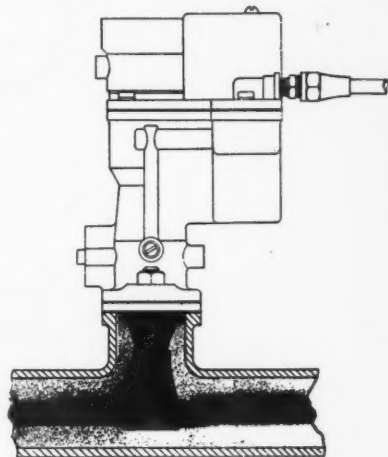
AS Ideas . . .

Continued from Page 178

For further information use postcard on p. 57

88. Gas Saver

The Leake Mfg. Corp. has de-
veloped a venturi-type gas saver
for installation in the intake mani-
fold. Called the Turbo-Jet, it is
said to be installed by one man in



an hour and to provide consider-
able saving in gas consumption.
The Turbo-Jet Gas Saver is an
auxiliary venturi supplementing
carburetion within the intake
manifold. The device picks up the
droplets of liquid fuel ordinarily
deposited in the manifold and con-
verts them to combustible vapor.
It is also claimed to afford quicker
response to throttle than ordinary
carburetion.

(Continued on page 182)



"... Agatha, do you suppose I
could make a hot rod out of this
job . . . ?"

KELSEY-HAYES

French & Hecht Davenport, Iowa Plant

SERVING AMERICAN AGRICULTURE!

Wheels, Hubs, Axles, Parts for Farm Equipment



One of 7 Great Plants Specializing in Farm and Automotive Products

For more than 60 years specialists of Kelsey-Hayes French & Hecht Division have been serving manufacturers in the devising and proving of quality wheels and related parts for most every conceivable type of agricultural implement and industrial wheeled equipment! Complete railroad baggage trucks and other

contract items also produced.

To determine what is best for you, Kelsey-Hayes designers and engineers consider the material, type of wheel, hub, axle, bearing, and tire size to meet your requirements of load range, side strains and operating speeds under conditions of actual use.



... ASSURES PROVEN PRODUCTS AT ...
KELSEY-HAYES WHEEL COMPANY

DETROIT 32, MICHIGAN



PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.
PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada.

AS Ideas Continued from Page 180

For further information use postcard on page 57

89. Refinish Line

The R. M. Hollingshead Corp. is offering the "carsmetics" program, which includes an entire line of automotive reconditioning products and a suggested plan for their use. In the application of these materials, 21 steps are employed, resulting in a complete interior and exterior refinishing

job on a car or truck. The products available in the "Carsmetics" program include a plastic spray material for truck interiors, a chrome refinish kit for bumpers and other bright work, an upholstery spray tint, a convertible top coating, a new type spray wax, a cleaner for upholstery and a new car odor.

**"NO OTHER TOOL SO HANDY
FOR ALL
AUTOMOTIVE SOLDERING"**

says **HARRY F. KAHLER**, Proprietor, Harry F. Kahler & Son, Auto Service, Philadelphia 11, Pa.

"My time and my mechanics' time costs money. Old fashioned, slow-heating soldering tools waste time and current. But my new 250 watt Weller Soldering Gun saves both—paid for itself in a few months. *Five-second heating* and chisel-shaped *RIGID-TIP* give faster soldering. Trigger-switch control means no wasted current—never have to unplug the gun between jobs. *Dual heat* lets me use my Weller Gun for light and heavy work—body touch-up, electrical and radiator repairs, ignition, instruments, generator, gas tank and gas line work. Every auto mechanic should have a Weller Gun in his tool box."



New WELLER 250-Watt Auto Mechanics Soldering Gun

DUAL HEAT—single heat 200 watts; dual heat 200/250 watts; 120 volts, 60 cycles.

WELLERTIP—Rigid, provides more soldering area.

SOLDERLITE—Prefocused spotlight.

5-SECOND HEATING—No waiting—no wasted current.

LONGER REACH—Slides into tightest corners.

TRIGGER-SWITCH CONTROL—Instantly on, instantly off.

Order from your distributor today, or write for bulletin direct.

WELLER
ELECTRIC CORP.

801 Packer Street, Easton, Pa.



SOLDERING GUIDE—Get your copy of "SOLDERING TIPS"—new fully illustrated 20-page booklet of practical soldering suggestions. Price 10c at your distributor or order direct.

90. Cash Register

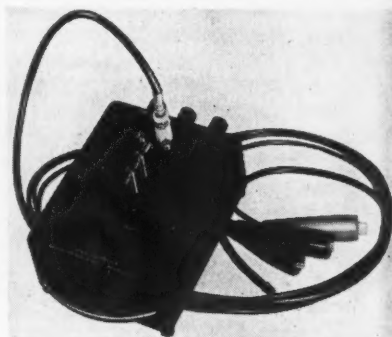
The Ohmer Corporation is announcing its new slip printing line of cash registers. These models may be supplied with registering capacity from 1 cent to \$99.99, or to \$999.99, for a single registra-



tion. They may have one, two, three or four totals for classifying sales by departments or transactions. The new slip printing feature makes it possible to certify (print on) any size form as positive evidence that the correct amount has been recorded.

91. Coil Tester

Shurhit Products, Inc., is marketing the Shurhit Visual-Audible Spark Coil Tester. With this unit, the spark of the coil being tested can be compared with that of the built-in factory tested coil under actual operating conditions. It can be used on the counter, in the shop, and on the road. It tests the ignition coil without removing it from the car. The manufacturer states

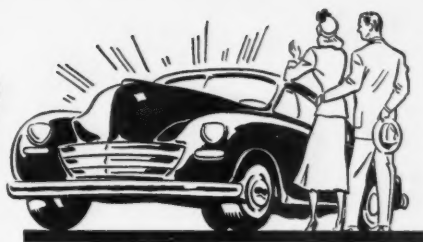


that it is simple to operate and solid in construction so that it is not easily damaged. Approximate size of the tester is 8 in. by 5 in. by 2½ in.

(Continued on page 186)

Proud Owners of New Cars will buy

WEED-AMERICAN V BAR-REINFORCED TIRE CHAINS



• No matter how many cars a man has owned—a new car is a new experience, a new enjoyment, a new value that he's determined to protect. So he wants new chains to keep his car free of little bumps when he's battling out of snow-cramped parking spaces—to protect him against serious skid crashes on hard-packed snow and ice.

Here are hundreds of thousands

of alert, prosperous new car owners with an extra, *fresh* reason for buying Weed Chains. They want their bright, brilliant new cars to keep on looking that way. *Sell 'em Weed Chains.*

Remind the man in the older car, too, about replacing or repairing his worn tire chains before snow flies. It's a goodwill gesture and provides a chance to talk new Weed Chain features.

Confident predictions are now made for 5,000,000 new cars for 1950. Some expect more.

As this is written the auto industry's September quota of 545,000 cars seems certain to be met. Some authorities predict an all-time record output in 1950 of 6,000,000 cars. This would shatter the famous car production record of 1929—and furnish you dealers with the greatest new car market for Weed Chains ever known.

Order Now—Don't Miss Out on Profitable Sales!

Millions of dollars have been lost in the past by dealers who neglected to order their Weed Chains in advance. Don't you lose Weed profits this year. Order now.

**WEED-AMERICANS
REALLY GRIP—even
on hard-packed snow or ice**



ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

**AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE**



In Business for Your Safety

POST-reading families



are your best customers

- They own **23%** more cars than average

[There are 83.2 cars in every 100 Post families, 67.9 cars for 100 average families.]

- Their incomes are **38%** higher than average

[Post family income averages \$4,152—\$1,152 larger than the figure for the nation.]

- They can afford to keep their cars in first-rate condition

[High-income families buy the most accessories and service their cars most often.]

- They know and trust Post-advertised products

[People pay more attention to, and have more confidence in, automotive advertising in the Post than in any other magazine.]

That's why the fastest-selling lines are Post-advertised lines!

THE SATURDAY EVENING
POST

- gets to the heart of America

AS Ideas Continued from Page 182

For further information use postcard on page 57

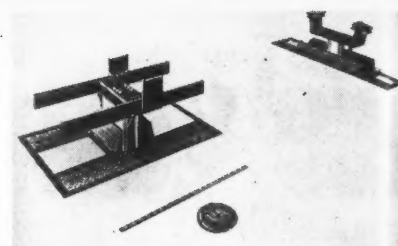
92. Generator Brush

Becker Brothers Carbon Company announces a new type of generator brush designed to carry the high amperage necessary for radio, heater, wiper and other electrical accessory operation. The Becker DC type heavy duty, double pig-tail generator brushes are available for all post-war cars and

trucks, and three brush sets service practically all these.

93. Post Lift

The United States Air Compressor Company is featuring the U. S. 2 Post Lift, which provides for instant spotting when rolling the car into position, and a safety saddle that is designed to hold



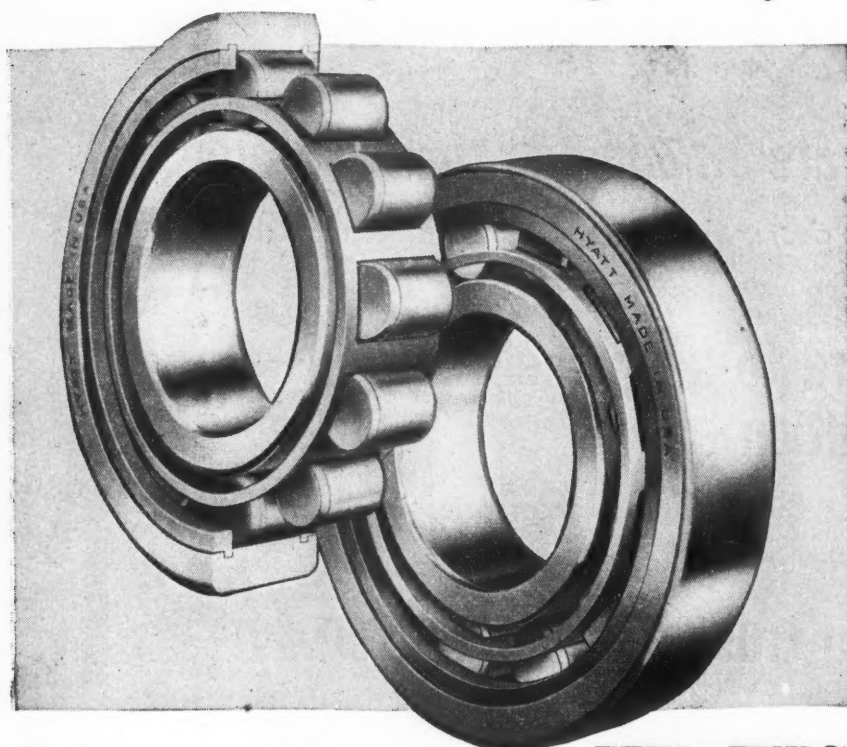
the car secure in any position. A dial and a scale are mounted flush in the floor and parallel with the rear axle post. Then the dial is turned to the number which corresponds with the number on the scale opposite the center of the rear hub cap. The safety saddle is constructed with a number of spring mounted pins which prevent the slipping of the car, regardless of position. Automatic doors keep a flush floor surface whenever the lift is not in use.

94. Sun Visor

The Vision-Visor Corporation of America is manufacturing a transparent sun visor for installation on the outside of the car, known as the Vision-Visor. This unit consists of a stainless steel frame, finished with two panels of DuPont Lucite. The manufacturer states that installation may be accomplished in a few minutes by applying simple, clamp-on brackets which hold the visor securely. The Vision-Visor is said to diminish glare up to 90 per cent during driving at any time, day or night.

(Continued on page 188)

There's only one right way



Replace with genuine HYATTS

Be smart about replacing bearings. The men who engineered the original bearings in most cars, trucks and buses used Hyatt Roller Bearings for definite reasons after laboratory and road tests.

So be smart—do it the right way—don't buck the experts. If you should have to replace a Hyatt bearing, use a Hyatt duplicate of the original to assure top performance for your customer. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey and Detroit, Michigan.



HYATT ROLLER BEARINGS

AVAILABLE EVERYWHERE THROUGH UNITED MOTORS DISTRIBUTORS

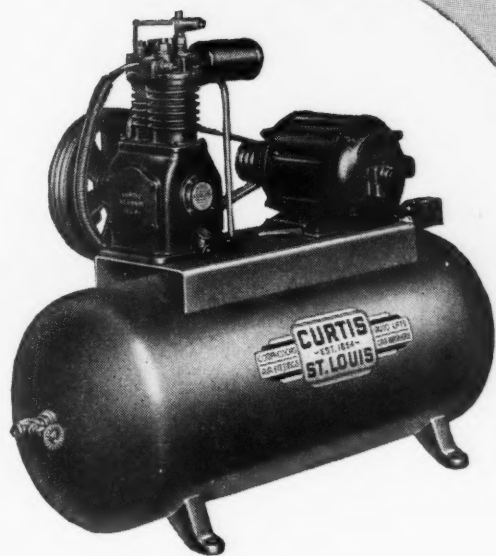


"...But haven't they got a bargain basement?"

Efficiency Is Essential to **PROFIT...**
 Make **YOUR SHOP MORE PROFITABLE**
 with

CURTIS

AUTOMOTIVE SERVICE EQUIPMENT



AIR COMPRESSORS

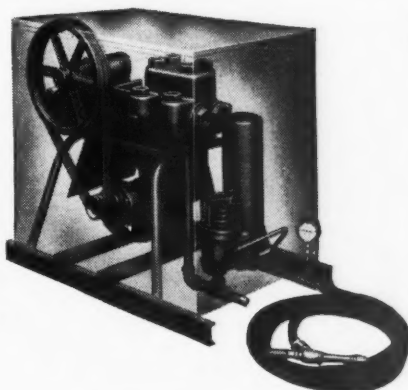
(Electric or Gasoline Motor Driven—vertical or horizontal tank mounted.)

Curtis compressors are ruggedly built for long, efficient operation.

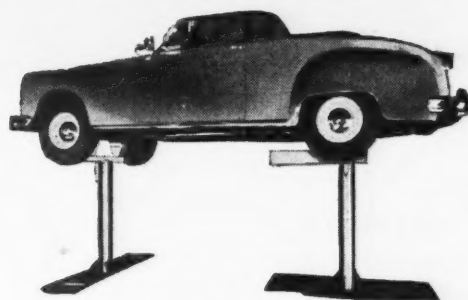
Hydraulic Car Washers

(300 Pounds Pressure)

For better and faster car washing, every shop needs this modern equipment. More cars are washed per day — more profits for you.

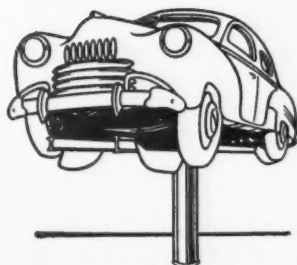


All Curtis Automotive Service Equipment is precision made from top quality raw materials — and there is built in 97 years of manufacturing "know-how."



Full-Hydraulic TWO-POST LIFT

Provides complete accessibility for faster, better work by your mechanics.



Rotating Auto Hoist

Free wheel or roll-on!

A-51-1

CURTIS PNEUMATIC MACHINERY DIVISION
 of Curtis Manufacturing Company
 1946 Kienlen Avenue, St. Louis 20, Missouri

- ☐ Air Compressors
☐ Auto Lifts
☐ Power Car Washers

I am interested in items checked:

Name.....

Firm.....

Street.....

City.....Zone.....State.....

For further information use postcard on page 57

95. Paint Service

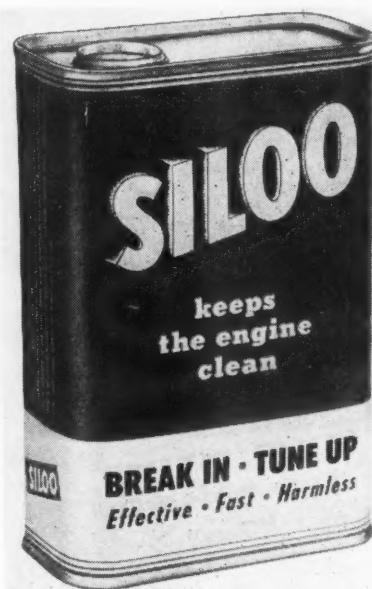
The Dearborn Chemical Company has announced a new service and an improved line of products for treating water used in water wash or down-draft spray booths. This service provides a new approach to the problem of protecting spray booth recirculating systems and exhaust fans against

clogging caused by paint overspray. The firm will make a survey for any plant using water wash spray booths or planning to install them. Based upon the paint or paints used in the booth and an analysis of the water supply where necessary, Dearborn will recommend a specific formula which, when properly used, will provide

protection for the exhaust system and the recirculating pump. The improved formulas will also permit more efficient reclamation of the paint overspray.

96. Oil Additive

Petroleum Solvents Corporation has developed an addition to the Siloo compound, for break-in, tune-up and maintenance. The new



compound, called Trileum, is said to increase the lubricity of oils, intensifies the penetrating qualities of lubricants, speeds the action of the solvents, and helps the oil to resist heat. Trileum has also been made a part of Loosite, the engine desludger, and Siloo Penetrant, the fast-acting penetrating solvent.

97. Filter Lines

The Imperial Brass Mfg. Co. is offering a new oil filter line merchandiser designed to provide broad coverage of filter line needs with a minimum stock. The new unit is constructed so that it can be either hung on the wall or placed on a counter.

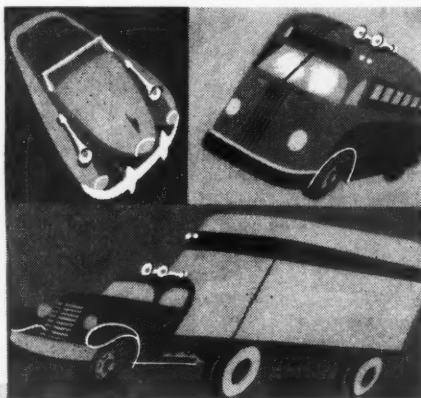
There are 11 universal lines in the stock, ranging in length from 10 in. to 28 in. Six adapter fittings of three types are provided. The adapters enable every line in the stock to do 4-way duty in providing coverage of service needs.

(Continued on page 190)

more DOLLAR VOLUME with buell

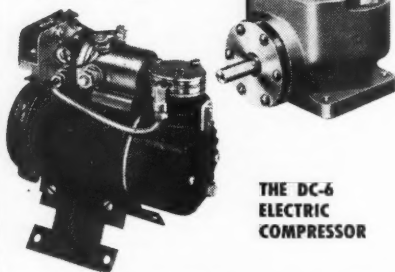
the COMPLETE air horn line

Only Buell gives you a wide choice of horn models plus two types of air compressors, foot or hand controls, as well as complete horn kits that operate without a compressor. Write for complete information on how you can increase your Dollar Volume, with Buell Air Horns.



THE 925 BELT
DRIVEN COMPRESSOR

PROVEN BY THE
TEST OF TIME



THE DC-6
ELECTRIC
COMPRESSOR

535 SPLIT

7" diameter French
horn Bells 36 1/2"
and 31" overall.
Most popular
model. Has deep,
steamboat tone.

525 SPLIT

7" diameter French
horn and Trombone
Bells 31 1/2" and
24 1/2" overall. Tone
1/2 octave above
535.

VOLUME CONTROL

The Buell "Air Miser" sound unit gives a Volume Control range from a kitten's purr to a lion's roar . . . instantly available with convenient foot control or hand lever.

Every year thousands of highway drivers discover the need for a warning signal that reaches out to give the extra margin of time necessary to avoid an accident. Buells meet this need.

For the Best Buy—Buy Buells

THE COMPLETE AIR HORN LINE

buell manufacturing company

915 W. 49 Place
Chicago 9, Illinois



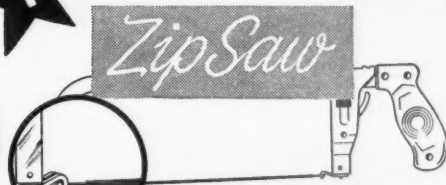
435 SPLIT
5" diameter Trumpet
bells 27 1/2" and
23 1/2". Mount nicely
on outside of
smaller cars.

FH420
5" diameter Trumpet
Bells 21" overall.
Tone 1/2 octave
lower than 410.

410
5" diameter
Trumpet Bells
18" overall.
Available in black
or chrome. The
horn you hear
on "Greyhounds."

K-D TOOLS & What's to Come in '51!

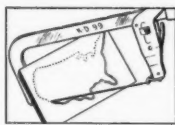
4 NEW TOOLS to talk about!



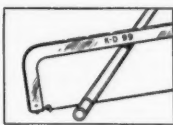
The ROUND Hacksaw Blade

Revolutionary new saw blade cuts in any direction, fits any standard hacksaw frame using pins. Hardened steel, flexible blade is spiral like a round file. Rough, medium, fine blades in 10" or 12" plus adaptors.

**ZipSaw nearly any material
----- in any direction.**

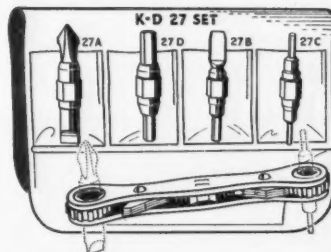


ZipSaw intricate patterns



Non-chattering on tubing

Saws intricate pattern lines in any direction—no need to shift saw or work. Non-chattering on tubing, pipe, light gage metals. Also saws wood, plastics, alloys, etc., making it 1000 times more useful than conventional blades.



FITS
ALL 4
TYPES

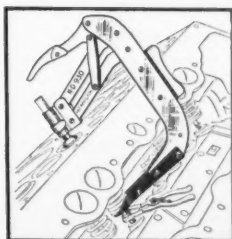
27 Offset Ratchet Bit Set

A 3 3/8" long double end ratchet wrench with 8 bits! One bit for Phillips, Reed & Prince type screws, No. 0 to 12. Five bits for Hex Key sizes 3/64", 3/32", 1/8", 5/32", 3/16". Two bits for standard screw slots 3/16", 1/4" wide. Reversible ratchet, box socket construction. Rust-proof finish. Bits accurately forged, correctly tempered. Each 1 1/2" long. Red plastic case.



3 609 MAGNETIC Valve Keeper Inserter

Specially designed to install keepers in Ford Trucks 8EQ, 8MTH, and other motors using free-type valves. Keepers quickly aligned on jaw magnets. Self-supporting on valve stem. The only tool on the market to service these valves!



4 5-L Fits-All Screwdriver

Features a patented REVERSIBLE bit. One end for Phillips, Reed & Prince type screws Nos. 0 to 10. Other end a 3/16" bit for slotted screws. Three smaller size standard screwdrivers inside fluted handle. Blades correctly shaped, tempered.



Fits all 3 slots



Reed & Prince

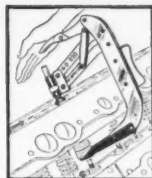
"There will be many late models needing valve jobs in '51."

Here are the RIGHT TOOLS to service 1949-50 models.



150 h. p. LINCOLN & BIG FORD TRUCK—USE Nos. 930, 935 Compressors.

Service 100 h.p. Ford V-8's like previous models with speedy K-D 920 Set.



930 Compressor to raise springs, remove keepers. Also for replacing.

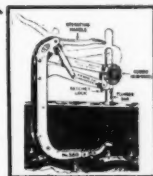
935 Compressor to remove spring AFTER keepers are out.



608 Inserter only tool on market to replace keys on Ford motors!* See 609 above for Big Trucks.



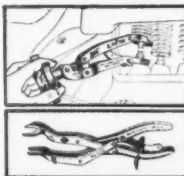
K-D 380 for late overhead engines of OLDS 'ROCKET', BUICK, & CADILLAC.



No. 385 for CHEVROLET.

FORD 6 cyl. after '48 use No. 700 Lifter.

Other L-HEADS—either No. 600 or 700 above.



*608 ALSO services late Cadillac, Chrysler, Dodge, DeSoto, Plymouth, Hudson, Kaiser-Frazer, Olds, Packard, Mercury, Ford 6.



AS Ideas Continued from Page 188

For further information use postcard on page 57

98. Pre-Paint Chemical

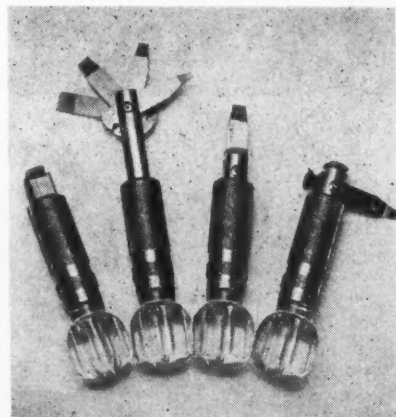
Auto Painters Aid Company has released a new powder form chemical to the auto painter. This new compound is marketed under the trade name of A.P.A. It enables the auto painter, the manufacturer states, to blend lacquer over baked enamel, remove wax and polish, and to retard scratches

appearing on the feather edge. It is claimed to reduce the time for sanding and priming.

99. Screwdrivers

The Shelton Plane & Tool Mfg. Co. announces a new four blade screwdriver which will accommodate a No. 1 to a No. 14 screw. The four blades pivot on a solid

rivet between the retractable side frames of the unit. In use, the side frames and blades are pulled



Why pay more for electrical test equipment?

NEW **KING** TESTING EQUIPMENT COSTS LESS... GIVES YOU MORE FOR YOUR MONEY!



Compare the new King line of electrical equipment with any other *regardless of price!* Point for point, King equipment gives you more for your money—gives you all the features you want most.

Before you buy, call your jobber for a competitive demonstration. Make an honest comparison and you'll see for yourself that new King products give you many exclusive features *nowhere else obtainable.* And King equipment costs less! Compare—and you'll see that King equipment is *your best buy from every angle.*

1. ENGINE TESTER. Built-in spark plug tester. 6, 12 and 24-volt ignition tests with engine running. Includes individual V-A-R (volt-amp-resistance) tester. No batteries; operates from any 110-volt outlet. Beautiful two-tone, baked-enamel Hammertex cabinet. **\$490.00**

2. DISTRIBUTOR TESTER. Brilliant firing pattern amplified by power pack. Calibrated for 6, 8 and 12 cylinders. Powerful worm-gear drive provides excellent slow-speed characteristics. Handles late Ford, Mercury, Lincoln. Specification roll-chart indexed by vehicles. Matching base cabinet available. For bench use: **\$345.00**



3. GENERATOR AND REGULATOR TEST STAND.

Handles all 6 and 12-volt standard equipment belt-driven passenger car and light truck regulators and generators at rated output. Silent drive for detecting bad bearings or brushes. Attractive, matching Hammertex finish. **\$315.00**

KING Electrical Test Equipment

For free catalog write to:

The Electric Heat Control Co.,
9123 Inman Ave., Cleveland 5, Ohio.

out, properly selected for this job, and the others are replaced in the side frames and pushed back into the plastic handle. When not in use there are no screwdriver blades projecting to poke a hole in the pocket or catch the hand.

100. Door Lock Cover

LeMaskin Rubber Products, Inc., are introducing a new rubber weather protector for all 1949-51 General Motors cars. Called the "Gard-A-Lok," it covers and protects door locks from ice, snow, sleet, and frost, snaps securely around the door handle, and cannot drop off or be lost. They are packaged one on a display card or 100 cards to a carton.

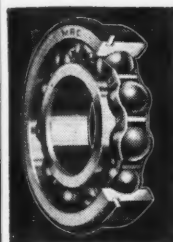
(Continued on page 192)



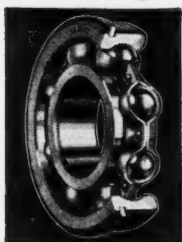
"Just off-hand, I'd say you were looking for a 1939 car—mileage about 90,000 — male driver — speed demon."

M-R-C BALL BEARINGS

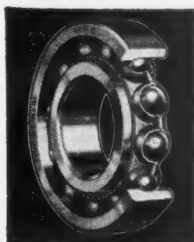
Complete Range of Types for All Automotive Service Requirements



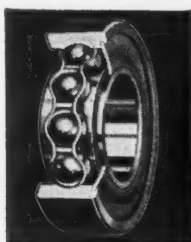
Maximum-Capacity
Snap-Ring Type



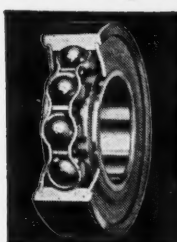
Super-Conrad
Snap-Ring Type



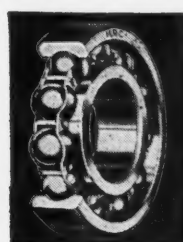
Radial Type R
Maximum-Capacity



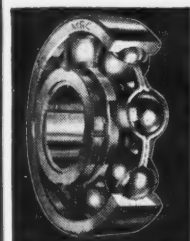
Maximum-Capacity
Single-Shielded



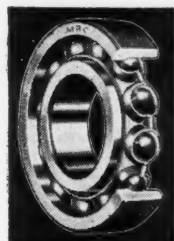
Maximum-Capacity
Double-Shielded



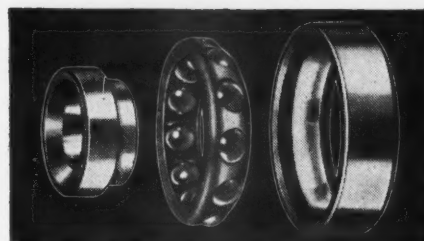
Maximum-Capacity
Notched Type



Adapter Type



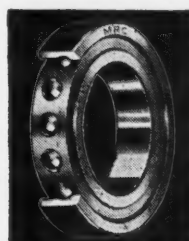
Radio-Thrust
Angular-Contact



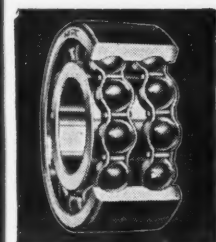
Front Wheel Bearings
Inner Race — Ball Retainer — Outer Race



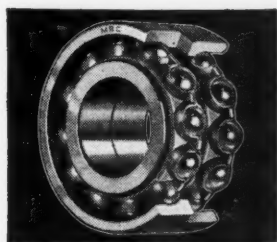
Super-Conrad Snap-Ring
Type Single-Shielded



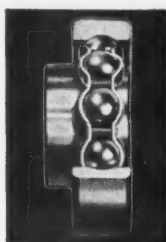
Single-Row
Extra-Light Type KR



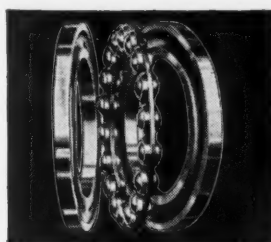
Double-Row
Maximum-Capacity Type



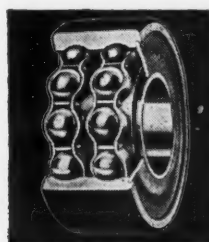
Duplex



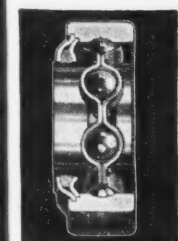
Wide-Inner
Bearing



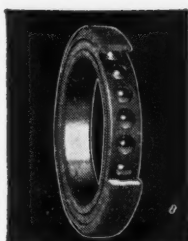
Thrust Bearing
Flat Washer Type



Double-Row
Single-Shielded



Fabri-Seal Type
with Sealing Ring



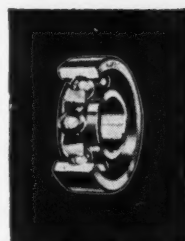
Extremely-Light
Inch-Size

"M-R-C BALL BEARING INTERCHANGEABLE TABLES"

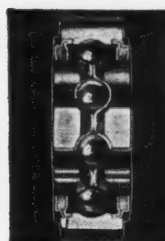
Ball Bearings of Various Makes in Numerical Order and Corresponding Sizes of M-R-C Replacements.

This bulletin contains a list of bearing numbers of over 12,000 different ball bearings made by various American ball bearing manufacturers.

Sent free on request — Ask for Form 352



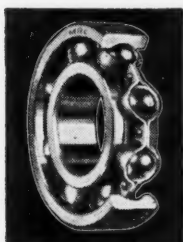
Extra-Small
(Miniature)



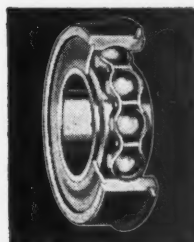
Double Felt-Seal
Shielded Both Sides



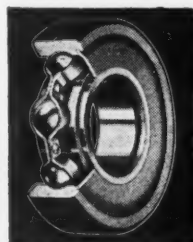
Narrow-Type
Bearing



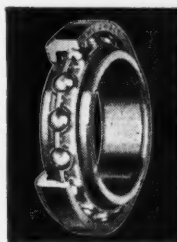
Super-Conrad
Deep-Groove Type



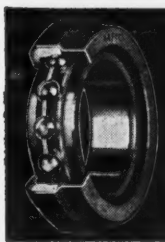
Max.-Capacity Snap-Ring
Type Single-Shielded



Super-Conrad Type
Single-Shielded



Clutch Throw-out
Plain



Clutch Throw-out
with Housing



M-R-C BEARINGS SERVICE CO.

Division of Marlin-Rockwell Corporation

Jamestown, N. Y.



AS Ideas Continued from Page 190

For further information use postcard on page 57

101. Hose Shut-Off

The H. B. Sherman Mfg. Co. is marketing a new self-closing hose shut-off for car washing and other jobs where an adjustable hose shut-off is desirable. This unit is made of cast brass. It provides instantaneous control of water flow and is equipped with a $\frac{3}{4}$ in. hose thread on both ends for at-

tachment to hose and standard garden hose devices.

102. Speed Nuts

Tinnerman Products, Inc., are offering kits for speed nut replacements for use in body shops, repair shops, and garages. The new General-Purpose Replacement Kit contains fasteners most fre-

quently used in the repair of leading automobiles. Specific Purpose Kits are also supplied for a wider assortment of fasteners for each make. Each kit contains either 15



or 24 different types of fasteners, with more than 550 parts in the smaller and more than 900 in the larger.

103. Terminal Tool

The Thomas & Betts Company, Inc., is manufacturing the Shure Stake Sta-Kon hand tool for installation of solderless terminals. With this tool the operator makes proper installations on terminals every time it is used, according to the firm. Incorporated in the tool is a safety pawl so that as the operator starts to close the grips, he must go all the way or the handles of the tool won't open.

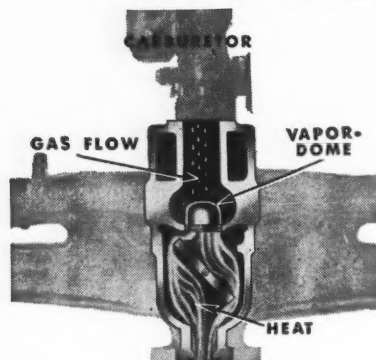
WHY WAIT

when delay is costing you money?

**REDUCE
MAINTENANCE
COSTS!**

Get Top Efficiency
Out of Your Engine
with the new

VAPOR-DOME*



**FAILURE IN PERFORMANCE IS
NEARLY ALWAYS CAUSED BY
IMPROPER VAPORIZATION.**

The Vapor-Dome will:

★ reduce carbon formations which accumulate around the vaporizing chamber of the intake manifold, preventing proper vaporization.

It's an uncertain market these days, so to insure your car for longer life, ask your dealer about the new, scientific wonder, VAPOR-DOME, that

Makes Your Motor Live Longer!

FOR FURTHER INFORMATION WRITE FOR LITERATURE



Manifold hot spot corporation

73 MAIN STREET

MA-1

OSHKOSH, WISCONSIN

money savings in:

- Improved Mileage—approx. 10% gas savings
- Longer Life For Valves
- Keeping New Carburetors In Top Form
- Taking Place Of New Manifold

★ reduce crankcase dilution (which in time can cause serious damage)—give faster warm-up with less choking during cold weather—prevent rich mixture—stalling at stops.

★ provide proper vaporization of gasoline—better acceleration—more power. Gives Longer Life To New Cars—New Life To Used Cars!



104. Car Mats

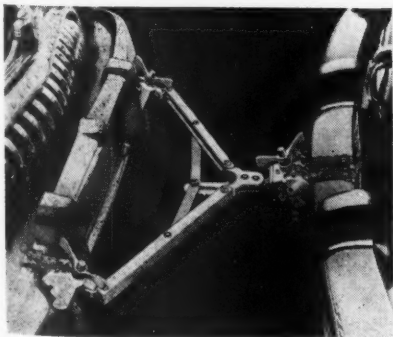
The Gates Rubber Company is marketing the Gates Car Mat, custom-molded to the exact replica of the car floor in all post-war models. Permanent "hump" and forward incline are cured-in to prevent wrinkling, bulging, or sagging. According to the firm, more cars can be fitted with fewer mat sizes because of the handy-fit feature. By removing specified cut-outs, mat gives perfect fit to any one of many cars.

105. Control System

Remington Rand has developed the Sched-U-Graph, a system for keeping track of cars in repair shops. All important data necessary for control of service operations are centralized in one compact unit. The Sched-U-Graph chart board consists of a series of white Kardex visible pockets mounted in a wooden frame. Each pocket contains a permanent job scheduling card which is divided into a series of job sections on which colored signals chart work waiting in process and completed. An order card at the left of the visible margin shows the owner's name and license number with signals indicating the day and time when the car is promised.

106. Tow Guide

The Pilot Distributing Company is producing the Moto-Matic Tow Guide, for towing passenger cars. This V-typed towing arrangement attaches to the bumpers as well as steering linkage. As the lead car turns, the cables cause the steer-



ing linkage to direct the car in the proper direction. According to the manufacturer, driving under vari-

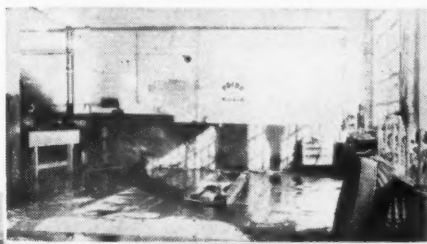
ous road conditions, the Moto-Matic guided car will follow the lead car with its steering wheel unlocked and unattended. The steering wheel on the Moto-Matic guided car functions in unison with the steering wheel of the towing car.

107. Low S.G. Battery

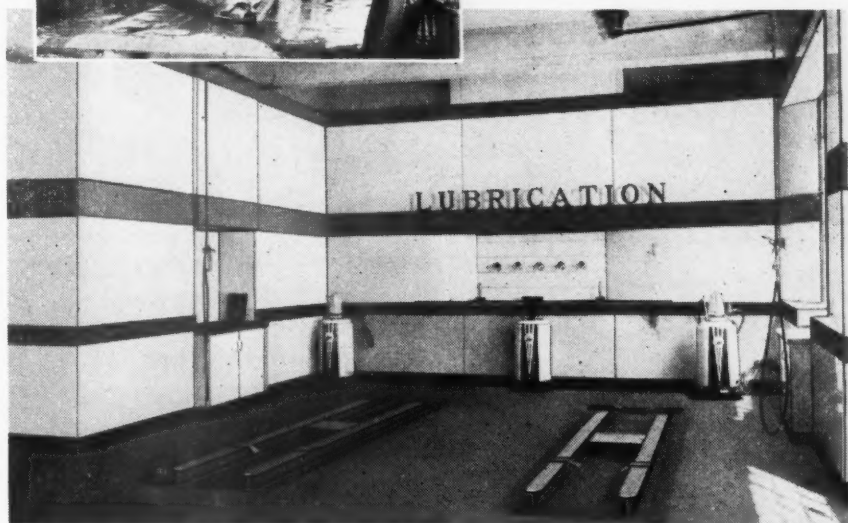
The Bowers Battery & Spark Plug Company has introduced the

Cadmidyne battery, which has the "add water only once a year" feature. A redesigned battery interior, which permits room for a greatly increased amount of reserve electrolyte in the battery, is said to make the unit longer lived. It is fully charged at 1240 specific gravity, instead of the usual 1275. This lower gravity is said to have less deteriorating effect on both plates and separators.

(Continued on page 194)



BEFORE—and AFTER! Budget-wise garage operators are modernizing old, hard-to-clean interiors almost overnight with durable, sparkling, easy-to-clean Marlite.



MODERNIZE with Marlite

... the fast, low-cost way

The sure way to give service stations a "face-lifting" is to install modern, economical Marlite plastic-finished wall and ceiling panels. An occasional wiping with a damp cloth keeps Marlite beautiful and attractive. The baked-on, plastic finish seals out dirt, grease, smudges and

moisture... seals in all the color and beauty! Another savings—interiors never require painting or redecorating. For new construction or remodeling, see your lumber and building material dealer. Ask for genuine Marlite, your guarantee of satisfaction. Mail coupon for free catalog.



MARSH WALL PRODUCTS, INC., Dept. 127, Dover, O.
Subsidiary of Masonite Corporation

Please send me without obligation latest full-color, illustrated MARLITE catalog

Name

Firm

Address

City State

108. Cable Lock

Kontra's, Inc. have designed a speedometer cable lock which is clamped to each end of the cable and controlled by a master key that cannot be duplicated. The purpose of this lock is to prevent tinkering with the speedometer. Suitable for use on rent-a-car vehicles, service businesses, over-

the-road revenue haulers, and so forth, operators can get an accurate check on gas, oil, tire, and other operating expenses.

109. Service Jack

The Tow Bar Sales Company is marketing an all-purpose combination service jack with a detachable adapter for handling trans-

missions, clutches, differentials springs and so forth for trucks



and passenger cars. According to the manufacturer this jack is also well suited for road service work due to its adaptability and easy handling. The gear ratio is approximately 4 to 1.

110. Rust Remover

The Tello Corporation has developed a new rust remover called Rid-O-Rust. This product is designed to dissolve rust and corrosion chemically, by brushing on the area and wiping off. No pasty residue is left. It is said to penetrate into pits and contains Sealax, a Silicone-Wax compound which is left on the surface to form a protective coating to check further rusting. According to the manufacturer, Rid-O-Rust can be used to remove rust knots prior to touching up, and on chromium to remove rust and restore the shining appearance.

111. Truck Mirrors

The K-D Lamp Company announces two new extension mirrors for light trucks, KD 103 and KD 115. These mirrors have combination hinge or panel mounting, with heavy duty non-slip adjustable hinge bracket. The steel arm has a reinforced extension joint which extends from 9 to 13 in. It is finished in black enamel with cadmium plated inner sleeve. KD 103 is equipped with a round mirror head, while KD 115 has a rectangular mirror head.

(Continued on page 195)

MIKE IT RIGHT...

For rapid, sure-fire readings you can't beat Central's Read-Rite Micrometer. There's no guesswork or chance of costly mistakes — the Read-Rite almost reads itself. As you turn the thimble, numbers in the windows give the measurement at a glance, eliminating the computations usually required in taking micrometer readings.

Think what the direct-reading feature can mean in speeding up measurements and eliminating costly errors! The Read-Rite is a real time and money saver — it pays for itself on the first major job and it's made to give a lifetime of Central Certified Accuracy.

The Read-Rite is available in two polished frame models, 0 to 1" (illustrated) and 1" to 2", and six black enameled frame models with a combined range of 0 to 6". See your jobber or write for bulletin.

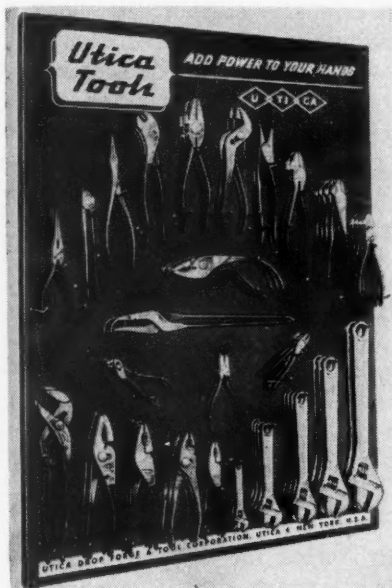
THE CENTRAL TOOL COMPANY
462 WELLINGTON AVE., CRANSTON 10, R. I.

FOR HALF A CENTURY
SPECIALISTS IN FINE MICROMETERS



112. Tool Display

The Utica Drop Forge and Tool Corp. announces its automotive display panel No. C-2. On one



compact panel are the basic pliers and adjustable wrenches for the Automotive field. The panel stocks 25 tools.

113. Spray Lube

Paneff Mfg. Co., Inc., is featuring Graphitoid Lub-A-Spray, an all-purpose dry powdered lubricant. This product is said to be oilless, greaseless and dripless and will not stain. It is also said to be unaffected by temperature or moisture, thus making it suitable for locks, windshield wipers, hinges, speedometer cables, etc.

114. Spray Equipment

The Campbell-Hausfeld Company announces the Pressure Maid direct drive, piston-type single



cylinder air compressor and paint spraying unit. It features a splash type oiling system and cast iron construction. The bleeder-type gun has a fluid adjustment, fan and round spray nozzles, and clamp on cannister. Fifteen feet of air hose are furnished with the unit.

115. Tube Repair Outfit

Bowes "Seal Fast" Corporation is marketing a tube repair cabinet

made of heavy gage metal, and is designed for safe and handy storage for an extensive stock of tube repairing requirements. The cabinet measures 13 in. in width and less than 12 in. in height. The tube repair cabinet comes equipped with an assortment of beveled Bowes "Seal Fast" chemical-seal tube repairs for use on either synthetic or natural rubber sheet rubber, solvent and tools.

(Continued on page 196)



**BETTER
GRINDING
FOR
YOU**

Grinding wheels are not just incidental to our business. They are our business. Leading automotive and industrial manufacturers know and use Simonds Wheels for most efficient performance. Get the same superior grinding results on your repair jobs. Ask your jobber for SIMONDS WHEELS — the complete line for all grinders.

**SIMONDS
ABRASIVE CO.**

SIMONDS ABRASIVE COMPANY, Tacony & Fraley Sts., Philadelphia 37, Pa.

AS Ideas Continued from Page 195

For further information use postcard on page 57

116. Island Units

The Bennett Pump Division of John Wood Company is featuring the Eco Islanders, with the new Spira-Coil hose retraction reels which provide air and water service right on the gas pump island. The units fit into the space ordinarily unused or occupied by island lights alone, and provide

air, water and light. Models are available with the Eco Automatic Tirelator, pylon-fluorescent light or light reflector unit, cash-box utility desk or Air-Water service merchandising sign. Other models are available with a 2 in. adapter casting for reinstallation of operator's previously used lighting units.

Shrink metal quicker and easier...

Herbrand's
tool-of-the-month

SHRINKING HAMMER

NOTE THE ROUNDED CORNERS
in this actual size photo of head

Pat.
Applied for

Mechanics can do a faster and better job of shrinking the metal of damaged fenders or bodies with the Herbrand BF-12 Shrinking Hammer. Scientifically designed face of shrinking head does not cut into the metal but pulls it together without tearing. A minimum of surface damage speeds up the job of filing, filling, sanding, etc.

Opposite head of hammer is mirror smooth for fine finishing work. Both working faces are absolutely flat with 1½" working surface. This unique hammer is forged from 1 piece triple alloy steel. Perfectly balanced and expertly finished.

Mechanic's Net
\$3.50

Another Herbrand
TOOL-OF-THE-MONTH
Selection



Every month see the
TOOL-OF-THE-MONTH
at your Herbrand
tool distributor

Herbrand Tools, Fremont 7, Ohio



117. Transmission Tools

Duro Metal Products Company's new addition to the Duro Tool Line, includes automatic transmission service tool sets, special automatic transmission sockets, new 6-point extra deep sockets, Chevrolet truck rim wrench, and a new assortment of clutch head screwdrivers. The new automatic transmission service tool sets include specially designed Duro-Chrome tools for servicing Drive-master, Fluid Drive, Ultramatic, Dynaflo, Hydramatic, and Power Glide transmissions. Sets are available in either 13-piece or 7-piece sizes, and both are contained in enameled steel toolboxes.

118. Filler Can

The F. H. Lawson Company is introducing the new No. 32 radiator filler featuring a longer spout for better servicing of new cars.



The pistol grip is designed to allow complete control when pouring and the oval shape permits easier carrying and handling. The filler is galvanized.

119. Gaskets

Felt Products Mfg. Co. is featuring a complete line of Fel-Pro gaskets, in new packages especially designed for compactness, protection, and quick identification of contents. The firm states that with very few exceptions, there are Fel-Pro gaskets available for every make and model of car, bus, and truck on the road today. Also pointed up by the firm, is a speed-up in distribution of Fel-Pro products by the establishment of six conveniently located warehouses, distributed through the country. A new "Quick Reference" catalog of these products is now available.

(Continued on page 198)



Nearly 400 Oldsmobile dealers and salesmen from Chicago Zone arrive in Lansing for a tour of the Oldsmobile plant. Above photographs show part of the largest movement of civilians by chartered planes in the history of U.S. commercial aviation.

OLDSMOBILE

Oldsmobile Dealers and Salesmen "Rocket" to Lansing to See Their Production Partners at Work!

Hundreds of dealers and salesmen have recently made flights to Lansing to inspect Oldsmobile's new production facilities! The renowned "Rocket" Engine plant and the new assembly plant are second to none in the industry. Oldsmobile is naturally anxious to show dealers and their sales forces these new plants. In this way, new enthusiasm is created for the factory and for the great cars which roll off the line at Lansing. "Operation Skyrocket" is a fine example of the teamwork that goes into the production and merchandising of the famous "Rocket" Engine Oldsmobiles!



A GENERAL MOTORS VALUE



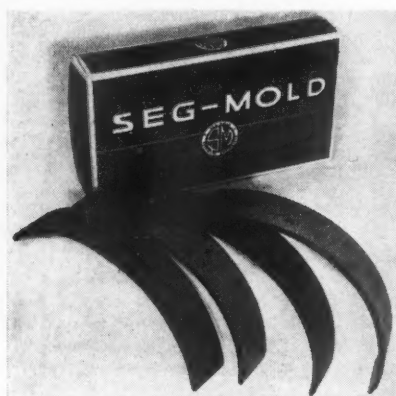
ASIdeas It work

For further information use postcard on page 57

Continued from Page 196

120. Brake Lining

The National Brake Block Corporation announces a new brake lining called "Seg-Mold," said to



be engineered specifically to each individual job, and built of the finest asbestos fibers, true carbons and other high grade materials. These are molded together under tremendous pressure to assure the proper density, by the "Seg-Mold" process. A feature of the construction, the manufacturer states, is true arcing to the exact drum diameters, permitting a greater braking surface and assuring a more efficient brake immediately upon installation.

121. Shock Absorbers

The Heckethorn Mfg. & Supply Company is manufacturing a new type of direct action, hydraulic shock absorber, claimed to embody a new theory in viscous damping. With the piston rod issuing from the bottom of the single cylinder, the provision is made on the Columbus Luxury-Ride Shock Absorber for air to be separated from the hydraulic fluid and lodged permanently at the top of the unit. The liquid passes around the outside of and through orifices within the body of the piston under controlled conditions. The piston also contains a thermostatic element for controlling the flow of liquid in proportion to temperature

changes. A rubber bellows type shield expands and contracts with the movement of the piston rod and is said to eliminate noise and rattle, deflect stones without damage, and keep dust and grit from attaching itself to the piston rod.

122. Tire Remover

Coats Loaders and Stackers, Inc., is manufacturing the Coats Iron Tireman, a machine for removing and installing tires on rims. The Coats Iron Tireman loosens the bead, removes the tire from the rim and then puts it back without the use of mallets or tire-irons. It handles all sizes of passenger car tires, and is said to perform the operation without damage to the tire, tube, and rim. Tire removal and installation is accomplished with the use of

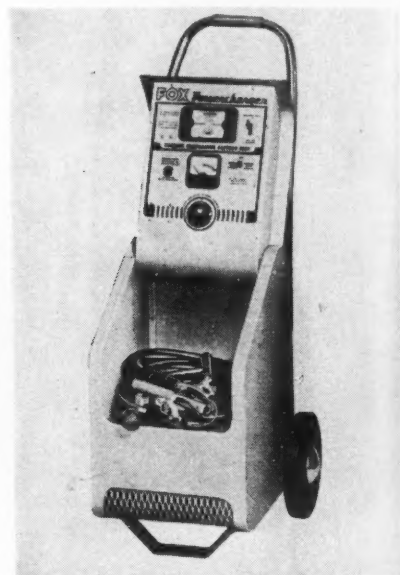


rollers, which travel between the rim and the bead to reduce friction and speed the operation.

123. Battery Charger

Fox Products Company is marketing its LW Power-Charger, which controls the charge through the Safety Therment, a small detector which is placed in the center cell of the battery. Tem-

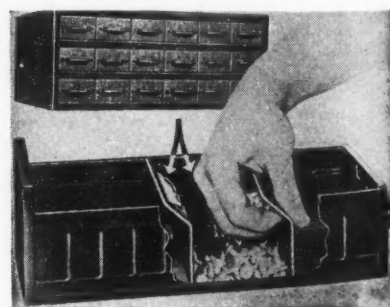
perature outside of the battery, as well as inside, automatically determines the charging time. The



full charge is assured, according to the manufacturer, with reductions in charging time up to one hour and a minimum of overcharge. Featured in the new charger is a built-in dynamic comparator battery test which tests all three cells at one time under discharge conditions on one meter. The test requires but half a minute with the condition of each cell indicated directly.

124. Drawer Separator

Equipto, Division of Aurora Equipment Company, is now manufacturing the Equipto steel drawer separator, a divider for parts bins and drawers for use in stock rooms. This tilt-type divider is said to give full visibility regardless of how full the drawer is, and helps eliminate scratches, knuckle-scrapes and serious cuts.

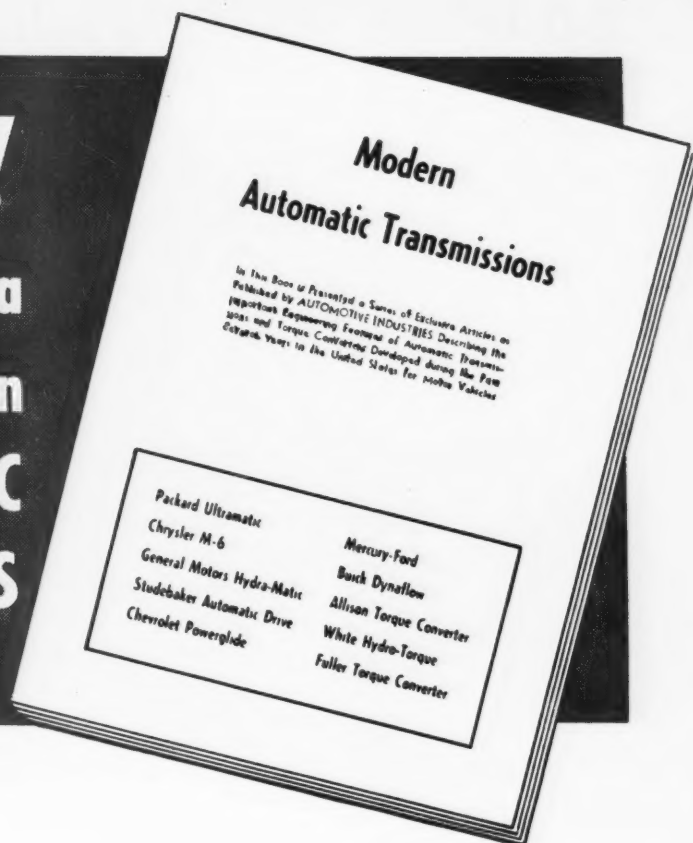


The dividers are now being supplied in all Equipto drawer units, parts bins, and other equipment.

(Continued on page 200)

NOW!

Complete Data On Modern AUTOMATIC TRANSMISSIONS



Here is the most complete information on modern automatic transmissions and torque converters for motor vehicles.

This handy 64-page reference manual contains a full series of exclusive articles published in AUTOMOTIVE INDUSTRIES, providing detailed, comprehensive descriptions of important engineering features.

Profusely illustrated with photos, drawings and charts, it is extremely useful for finger-tip reference. AUTOMOTIVE INDUSTRIES offers "Modern Automatic Transmissions" at \$2.00 per copy, with special prices for quantities. Order your copy today, using coupon below, or write for complete information on quantity prices.

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AUTOMOTIVE INDUSTRIES,

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Please send immediately my copy of the 64-page book "Modern Automatic Transmissions," for which I enclose \$2.00.

Name Title

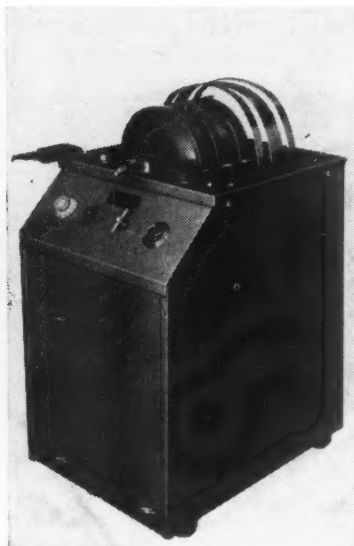
Company

Address

City State

125. Brake Bonder

The Grizzly Manufacturing Company has developed a gas-fired model of the Saftibond Power-bonder. The manufacturer states that advantages of the gas-fired model include lower



cost of operation, more constant uniformity of heat. A model is provided which can be used with common bottled gas fuels. It is stated that the Powerbonder has a production capacity in excess of 40 brake shoes per hour. Tests with natural gas indicate that the unit operates efficiently on 15 cubic feet of fuel per hour.

126. Water Tubes

Dorman Products, Inc., is marketing a complete line of water distributing tubes for all popular makes and models of cars. Most sizes are available in either galvanized steel or non-corrosive, rustproof solid brass. These tubes are individually boxed and labeled to indicate the complete car application of each tube.

127. Generator Tool

Tincher Products Company is marketing the Tincher "Commutator Smoothie," a tool designed for resurfacing generator and starter motor commutators. It consists of a long plastic handle with

a patented resurfacing stone on either end. One stone cleans and smooths the commutator bars; the other stone polishes them. The long, two-angle handle is said to make it easy to reach in to remove pits, burns, and small grooves, and to smooth and polish the commutator surface. It is not necessary to remove the generator or starter, but only the cover band, and the complete resurfacing job can be done in only a few minutes, the manufacturer states.

128. Tandem Assembly

Steel Products Company announces a tandem assembly designed around extra-long springs and engineered for maximum flexibility and load-support. The firm, which makes Great Dane trailers, states that positive axle alignment and simplicity are features of the new tandem.

129. Filter Element

Wix Accessories Corporation has announced a new filtrant designated as Wixite, which presents a resilient, non-felting depth filtrant. A blend of cotton threads

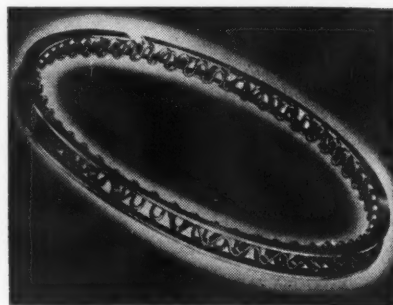


and springy imported bast fibres forms a labyrinth of minute

sludge-trapping crevices which are claimed not to collapse or mat down. Thus, surface coating is largely eliminated and the filtrant absorbs a great volume of dirt, grit and sludge with no appreciable drop in flow rate throughout the life of the cartridge.

130. Oil Ring

The Wilkening Manufacturing Company has developed a new oil control ring designated as the Pedrick CS8. This oil ring comes in four parts; an upper segment,



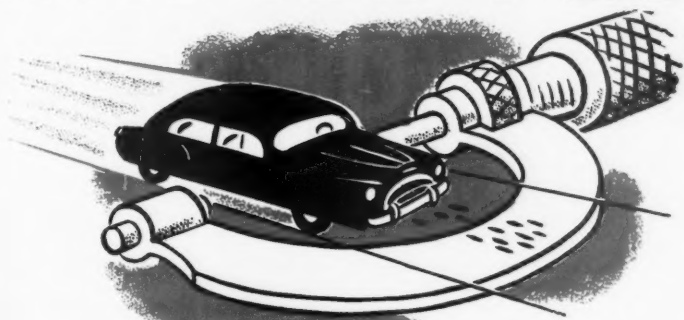
a spacer, an equalizer, and a lower segment. Since the equalizer does not rely on the bottom of the groove, it is completely independent of groove depth. Thus, the problem of groove depth variations is eliminated. The narrow faces of the two steel segments are plated with a layer of solid chrome. This flexible oil steel ring is claimed to adapt itself to practically all conditions of cylinder wear and distortion, and the equalizer, which gives the ring its tension, bears evenly on the ring all the way around. Another feature of this ring is that the construction permits motion within the ring to prevent formation of carbon deposits to clog the passages. The Pedrick CS8 oil ring is presently available for Buick passenger cars and will soon be made for other makes.

131. Cork Gaskets

The Armstrong Cork Company has developed a new electronic heating process which is said to produce cork composition gaskets of more uniform density. The gaskets are said to have greater strength, more uniform compressibility, and more dependable sealing qualities.

(Continued on page 201)

IMPROVED DESIGN



Yes, Champ-Items has it! Improved design — to do a better job — tested by repairmen who know. Each Champ-Items part is engineered for Easier Service — Better Performance — Driving Safety. **TIME SAVERS — MONEY MAKERS** for every shop.

More than 200 automotive replacement parts featured in Champ-Items catalog — write on your letterhead for a copy. Every up-to-date shop should have one



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6191 Maple Ave. St. Louis 14, Mo.

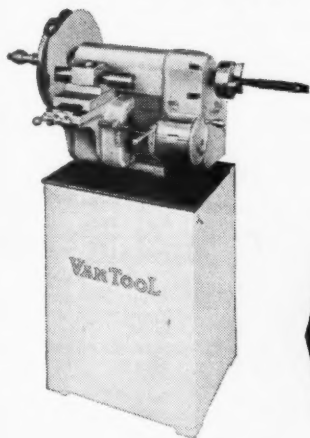


NEW! No. 477 VENTILATOR WINDOW LATCH for all General Motors and other cars. Can be installed in one minute with screw driver. Come on attractive Display cards or packed 12 to box.

List 40c each.

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AS LOW AS
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REAMER DRIVE EXTRA

You'll miss these PROFITS without a

VAN TOOL *Chatterproof*
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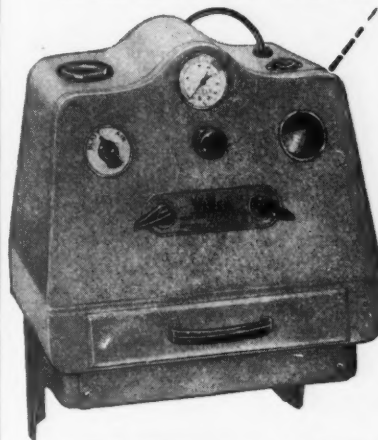
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Write or wire NOW about FREE TRIAL OFFER

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SERVING THE AUTOMOTIVE TRADE FOR OVER A QUARTER OF A CENTURY

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Select the unit to fit your needs. VIXEN offers you the Cleaner only, the Tester only, the combination Cleaner and Tester, or the VIXEN Deluxe with Cleaner and Tester encased in smartly designed cabinet, grey or white. Tell your customers why VIXEN's exclusive "vapor-like" abrasive flow insures uniform cleaning of spark plugs. Show them the comparison between new and old plugs with VIXEN Tester. VIXEN will add to your list of happy customers.

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SEE YOUR JOBBER

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Write for information.

Vixen Deluxe \$30.00
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Gentlemen:

Please send me information on your Spark Plug Cleaning and Testing Equipment without obligation.

Name

Address

City State

Jobber

MA-1

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of November 30, 1950.
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					CROSLLEY (Continued)					KAISER (Continued)					PACKARD (Continued)				
Special 40					Sta. Wagon	849	67	916	1403	Traveler, 2d.	2031	128	2159		Club Sedan	2166	139	2305	3640
Jt. Bk. Cpe., 2d.	1680	123	1803	3615	Super Sports	859	66	925		Traveler, 4d.	2078	131	2209		Tour. Sedan	2214	141	2358	3660
Jt. Bk. Sdt., 2d.	1730	128	1858	3655	Sup. Sed., DeL.	863	68	931		DeLuxe					DeL. 200				
Jt. Bk. Sdt., 4d.	1770	129	1899	3685	Sup. Conv.	866	68	934		Bus. Coupe	1936	123	2059		Club Sedan	2299	146	2445	3577
Jt. Bk. Sed., 4d.	1780	129	1909	3715	Sup. Sta. Wgn.	914	70	984		Sedan, 2d.	2040	129	2169		Tour. Sedan	2347	148	2495	3680
Tr. Sedan, 4d.	1810	131	1941	3710						Club Coupe	2059	130	2189		300-2402				
Jt. Sed. Dl., 4d.	1820	132	1952	3720	DE SOTO†					Sedan, 4d.	2088	131	2219	3225	Tour. Sedan	2716	179	2895	3980
Tr. Sed. Dl., 4d.	1850	133	1983	3720	De Luxe					Traveler, 2d.	2135	134	2269		400-2406				
Super 50					Club Coupe	1871	105	1976	3450	Traveler, 4d.	2183	136	2319		Tour. Sedan	3283	212	3495	4180
Jt. Bk. Sdt., 2d.	1896	145	2041	3645	Sedan, 4d.	1881	105	1986	3525										
Riviera, 2d.	1898	151	2039	3790	Carry-All	2075	116	2191	3600	LINCOLN									
Tour. Sed., 4d.	1989	150	2139	3745	Sedan, 8p.	2535	141	2676	3995	Coupe, 6p.	2350	179	2529	4060	PLYMOUTH†				
Riv. Sed., 4d.	2058	154	2212	3870	Custom	2042	114	2155	3575	Spt. Sedan, 4d.	2395	181	2576	4085	DeLuxe P-19	1295	76	1371	2872
Convertible	2308	168	2476	3645	Club Coupe	2059	115	2174	3640	Lido	2535	186	2721	4060	Coupe, 3p.	1410	82	1492	2946
Est. Wagon	2658	168	2826	4115	Sedan, 4d., 6p.	2059	115	2174	3640	Cosmopolitan					Sedan, 2d.	1740	100	1840	3115
Edmaster 70					Sportsman	2358	131	2489	3735	Coupe	2975	212	3187	4435	Suburban	1840	106	1946	3155
Jt. Bk. Sdt., 2d.	2343	185	2528	4025	Convertible	2443	135	2578	3815	Spt. Sedan	3025	215	3240	4430	Spec. Sub.				
Tour. Sed., 4d.	2443	180	2623	4135	St. Wgn. Steel	2574	143	2717	3900	Capri	3185	221	3406	4435	DeLuxe P-20	1435	84	1519	3040
Riviera, 2d.	2443	180	2623	4135	Sedan, 8p.	2713	150	2863	4115	Convertible, 6p.	3700	280	3950	4610	Club Coupe	1465	88	1551	3068
Riv. Sed., 4d.	2568	196	2764	4215	Sta. Wagon	2932	161	3093	4035						Spec. DeL. P20	1515	88	1603	3041
Jt. Sed. Dl., 4d.	2653	201	2854	4245	Suburban	3013	166	3179	4400	MERCURY					Club Coupe	1540	89	1629	3072
Convertible	2773	208	2981	4345	DODGE†					Coupe, 72A	1745	130	1875	3345	Conv. Ch. Cpe.	1875	107	1982	3295
Est. Wagon	3178	229	3407	4470	Wayfarer, D33					Coupe, 72B	1845	135	1980	3430	Sta. Wagon	2245	127	2372	3353
Est. Wag., Dl.	3203	230	3433	4430	Coupe, 3p.	1525	86	1611	3095	Spt. Sedan	1895	137	2032	3470					
					Roadster, 3p.	1835	92	1727	3190	Coupe, 72C	2005	141	2146	3430	PONTIAC				
					Sedan, 2d.				3200	Coupe, 72D	2015	142	2157	3430	Chief, 8				
					Spt. Roadster				3155	Coupe, 72E	2255	157	2412	3710	Bus. Coupe	1527	113	1640	3289
					Meadowb'k D34					Convertible	2397	164	2561	3755	Sed. Coupe	1644	119	1763	3334
					Sedan	1750	98	1848	3395	NASH					Sedan, 2d.	1644	119	1763	3334
					Coronet D34					Rambler					Sedan, 4d.	1692	121	1813	3384
					Club Coupe	1812	102	1914	3340	Convertible	1723	114	1837	2430	DeL. Sed. Cpe.	1734	124	1858	3344
					Sedan, 4d.	1825	102	1927	3405	Sta. Wagon	1723	114	1837		DeL. Sed., 2d.	1734	124	1858	3354
					Twn. Sedan	1905	107	2012	3410	Suburban	1623	100	1723		DeL. Sed., 4d.	1782	126	1908	3389
					Conv. Coupe	2206	123	2329	3590	Statesman					Catalina, DeL.	1935	134	2069	3439
					Sta. Wagon	2479	138	2617	3850	Bus. Coupe	1596	114	1710	2900	Cat. Sup. DeL.	1990	137	2127	3439
					Diplomat				3515	Super					DeL. Conv. Cpe.	2050	140	2190	3594
					Sierra				3726	Sedan, 2d.	1671	119	1790	2930	Streaml. 8				
					FORD					Club Cpe.	1683	119	1812	2940	Sed. Cpe.	1624	118	1742	3354
					Six					Sedan, 4d.	1696	119	1815	2965	Sedan, 4d.	1672	120	1792	3389
					Bus. Coupe	1236	97	1333	2925	Custom					DeL. Sed. Cpe.	1714	123	1837	3359
					Tudor	1323	102	1424	2981	Sedan, 2d.	1821	128	1949		DeL. Sed., 4d.	1762	125	1887	3399
					Fordor	1368	104	1472	3040	Club Cpe.	1843	128	1971		Met. Sta. Wag.	2185	147	2332	3689
					Custom 6					Sedan, 4d.	1846	128	1974	2990	DeL. Met. St. Wg.	2260	151	2411	3829
					Tudor	1405	106	1511	2988	Ambassador					Chief, 6				
					Club Coupe	1405	106	1511	2965	Super					Bus. Cpe.	1462	109	1571	3209
					Fordor	1450	109	1559	3047	Sedan, 2d.	1997	140	2137	3325	Sed. Cpe.	1579	115	1694	3249
					Sta. Wagon	1895	133	2028	3465	Club Cpe.	2018	140	2158	3335	Sedan, 2d.	1579	115	1694	3274
					Eight					Sedan, 4d.	2022	140	2162	3350	Sedan, 4d.	1627	118	1745	3299
					Bus. Coupe	1318	101	1419	2965	Custom					DeL. Sed. Cpe.	1669	120	1789	3254
					Tudor	1393	105	1498	3021	Sedan, 2d.	2147	149	2296		DeL. Sed., 2d.	1669	120	1789	3279
					Fordor	1438	107	1545	3080	Club Cpe.	2168	149	2317	3399	DeL. Sed., 4d.	1717	123	1840	3304
					Custom 8					Sedan, 4d.	2172	149	2321		Catalina DeL.	1870	130	2000	3359
					Tudor	1480	110	1590	3028	OLDSMOBILE					Cat. Sup. DeL.	1925	133	2058	3359
					Club Coupe	1485	110	1595	3005	Series 76-6					DeL. Conv. Cpe.	1985	137	2122	3514
					Fordor	1525	112	1637	3087	Club Coupe	1600	119	1719	3260	Streaml. 6				
					Conv. Coupe	1820	128	1948	3277	Club Sedan	1625	120	1745	3280	Sed. Cpe.	1559	114	1723	3269
					Sta. Wagon	1970	137	2107	3510	Sedan, 2d.	1640	121	1761	3290	Sedan, 4d.	1607	117	1674	3304
					FRAZER					Club Cpe., DeL.	1665	122	1787	3280	DeL. Sed. Cpe.	1649	119	1768	3289
					Sedan, 4d.	2221	138	2359	3535	Sedan, 4d.	1690	123	1813	3285	DeL. Sed., 4d.	1697	122	1819	3309
					Vagabond	2269	140	2399		Sed., 2d., DeL.	1695	124	1819	3320	Met. Sta. Wag.	2120	144	2264	3604
					HUDSON					Sed., 4d., DeL.	1705	124	1829	3295	DeL. Met. St. Wg.	2195	148	2343	3539
					Pacemaker 6					Sed., 4d., DeL.	1760	127	1887	3340					
					Coupe, 3p.	1773	140	1913		Hol. Coupe	1870	133	2003	3335	STUDEBAKER				
					Brougham	1900	147	2047	3475	Hol. Cpe., DeL.	1970	138	2108	3385	Champ. Cust.				
					Sedan, 4d.	1940	149	2089	3510	Conv. Coupe	1995	140	2135	3585	Coupe, 3p.	1370		1471	2585
					Club Cpe.	1940	149	2089	3460	Sta. Wagon	2210				Sedan, 2d.	1435		1540	2670
					Conv. Brghm.	2400	173	2573		Sta. Wgn., DeL.	2345	169	2504	3615	Coupe, 5p.	1460		1566	2650
					Super 6					Series 88-8					Sedan, 4d.	1465		1572	2690
					Brougham	2029	151	2180	3565	Club Coupe	1745	133	1878	3435	Champ. DeL.				
					Sedan, 4d.	2074	154	2228	3590	Club Sedan	1770	134	1904	3475	Coupe, 3p.	1445		1549	2610
					Club Cpe.	2074	154	2228	3555	Sedan, 2d.	1785	135	1920	3485	Sedan, 2d.	1510		1618	2690
					Conv. Brghm.	2572	181	2753	3750	Club Cpe., DeL.	1820	136	1956	3455	Coupe, 5p.	1535		1644	2675
					Commodore 6					Sedan, 4d.	1840	138	1978	3515	Sedan, 4d.	1540		1650	2715
					Club Cpe.	2225	166	2391	3640	Club Sed., DeL.	1845	137	1982	3485	Champ. Regal				
					Sedan, 4d.	2248	168	2416	3655	Sed., 2d., DeL.	1860	138	1998	3500	Coupe, 3p.	1520		1629	2615
					Conv. Brghm.	2738	195	2933	3840	Sed., 4d., DeL.	1915	141	2056	3520	Sedan, 2d.	1585		1697	2690
					Commodore 8					Hol. Coupe	2015	147	2162	3510	Coupe, 5p.	1610		1723	2675
					Club Cpe.	2307	170	2477	3655	Hol. Cpe., DeL.	2115	152	2267	3565	Sedan, 4d.	1615		1729	2715
					Sedan, 4d.	2330	172	2502	3675	Conv. Coupe	2140	154	2294	3745	Convertible	1905		2034	2890

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INFORMATIVE
BROCHURE NOW**

Learn how you can
**ELIMINATE
POISONOUS GAS**
from your service department



Get the Facts Now on How You Can—

- completely remove dangerous carbon monoxide gases
- protect employees' health
- step up morale and worker output
- carry on-exhaust tests without danger from deadly fumes
- install positive protection at low cost

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Today*
For Complete
Details

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The Plant Behind AMKO Products!



Shown above is our main plant and warehouse at 556-570 W. Fulton St., Chicago 6, Ill. We are one of the largest suppliers of Universal Joints for the Army and Ordnance Department

Every AMKO PRODUCT Is Carefully Engineered and Accurately Machined to Original Equipment Specifications!

For All Popular Cars and Trucks We Can Furnish the Following:

- | | |
|----------------------|-----------------------|
| • KING BOLT SETS | • UNIVERSAL JOINTS |
| • FRONT END SPRING | • TIE ROD ENDS |
| SUSPENSION PARTS | • RUBBER BUSHINGS |
| • WATER PUMPS & KITS | • SPRING SHACKLE SETS |

We Also MANUFACTURE Original Equipment Replacements for ARMY & CIVILIAN JEEPS.

Every Item Unconditionally Guaranteed for Service.
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AUTOMOTIVE MAN'G CO. INC.
General Offices and Warehouse
570 W. FULTON ST. CHICAGO 6, ILL.

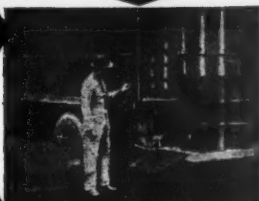


**Which® LIFT-GATE Type
will cut YOUR Costs Most?**

**ANTHONY ALONE.
GIVES YOU A CHOICE...**

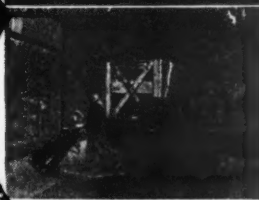
SAVE HANDLING TIME

GENERAL PURPOSE TYPE Gate used with or without DETACHABLE ramp for general commodity handling (diapers to dynamite)... "Level Lift"... Safety toe clearance... Non-Slip surfaced aluminum alloy gate floor. Choice of New Spring "Powered" or "Hydro Power" closing.



SPEEDS UP DELIVERIES

RAMP TYPE has ramp attached for wheel-on loading of bulky items. Anthony "Lift Gates" can be stopped at any elevation. Exclusive safety features, speed, and light weight identifies the Anthony Lift Gate. Choice of New Spring "Powered" or "Hydro Power" closing.



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"PICK-UP" Type for 1/2 and 3/4 ton trucks. The handiest, fastest "helper" you can hire at a cost less than you'd expect to pay! Light weight. Hydraulic Power. Simple and safe. Stops expensive double handling.



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ANTHONY CO., Streator, Illinois

THE *Modern* WAY
TO CLEAN METAL PARTS
**NO BRUSHING
NO SCRAPING
NO HEATING**



Why use old-fashioned methods when Bendix* Metalcene parts cleaner is the ideal solution? Use it anytime without heating! Just dip—don't scrub—and parts are as clean as new! It lasts and lasts for real economy! It's the modern way to clean all metal parts and tools. Order a supply today.

*REG. U. S. PAT. OFF.

BENDIX PRODUCTS DIVISION of
SOUTH BEND 20, INDIANA



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

LET AMERICA'S LOWEST PRICED,
HOT-PRESS-CURED, MOLDED
SOUTHERN FIBER BLOCK
GIVE YOUR BUSINESS A "BRAKE"
IN '51



SOUTHERN FRICTION MATERIALS CO. CHARLOTTE, N.C.

**KEEP DOWN
COST-per-MILE
with BEAR!**



Increase tire mileage, cut accident costs! Make or get Bear Tests for Dy-Namic Wheel Balancing, use Bear Alinement, Straightening Equipment; the leaders do! **BEAR MFG. CO., Dept. M-1, Rock Island, Ill.**

1736

Synthetic Rubber

The 1951 outlook is for more and more synthetic rubber in passenger car and other tires from 7.50 on down as the rubber situation tightens up even though manufacturers are already using greater proportions of synthetics than are required. Year-end limitations were holding natural rubber use to 51 pct of the base period during January and 43 pct for February. While no specifications for larger tires are in the rubber order it appeared that they were on the way. Prospects were that unit production of large, heavy-duty truck and bus tires will decrease as producers try to maintain quality.

Always Insist On
KEN TOOLS
...they're "Job Designed"

Ask For KEN-TOOL
Replaceable-Rubber-Head
or
KEN-TOOL Standard
Tire Hammers



"Job Designed" for changing tires use either KEN-Standard or Replaceable-Rubber-Head Tire Hammers. Built stronger to last longer... real time and labor saver!

JOBBERS: Write for Catalog Today!

LARGEST EXCLUSIVE MANUFACTURERS
OF TIRE AND WHEEL CHANGING TOOLS
The KEN-TOOL Mfg. Co.
Akron 5, Ohio

MANUFACTURERS!

A Large Wholesale Catalog House
with 50,000 customers
wants to **BUY** new good
selling automobile accessories
and gadgets for resale

Write or Wire

JOHN PLAIN & COMPANY
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BIGGER PROFITS FOR YOU with **OIL-CUE**

THE ONLY AUTOMATIC OIL-LEVEL SIGNAL
PARKWOOD MFG. CO., CLEVELAND, O.

Automotive Replacement Sales
FRANK A. NEALON ASSOCIATES
Factory Equipment Sales
GARBISCH-EDGINGTON, INC.
2111 WOODWARD AVE. • DETROIT 1, MICH.

HAVE YOU A JOB FOR A TRAINED MECHANIC?

We have a number of alert young men who have completed intensive training in Automotive Mechanics, Automatic Transmissions, and Body-Fender Rebuilding. They learned their trades thoroughly by working on actual equipment under personal, expert supervision. If you need a trained man, we invite you to write for an outline of our course, and for a prospectus of the graduate. No fees, of course. Address:

Placement Manager, Dept. P102-1

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**Genuine
SERVICE**
INDIANAPOLIS
"Measurably Better"
SPRINGS



SERVICE SPRING COMPANY
INDIANAPOLIS 6, INDIANA

THE COMPLETE LINE

that
Completely Satisfies
Since 1906

The
Fitzgerald Mfg. Co.
Torrington, Connecticut

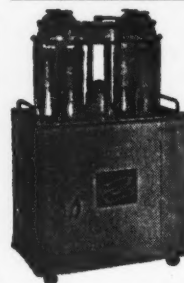


Fitzgerald
GASKETS

WOLF'S HEAD
IS 3 STEPS AHEAD

WOLF'S HEAD
MOTOR OIL AND LUBES

100% PURE PENNSYLVANIA
Member,
Penna. Grade Crude Oil
Association



For More and Bigger
COOLING SYSTEM
SERVICE PROFITS

**CHOLDUN
PRESSURE
PURGER**

Write for full
information today

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New York 18, N. Y.

DON'T DRILL BAD HOLES USE **KEN MIDGET LEVEL**

Attached to any electric drill, prevents bad holes. A new adjustable Ken Level is a separate unit. Attached to top of drill housing. Drills horizontal, vertical and angular holes with utmost accuracy. Bubble glass firmly mounted in adjustable holder rotating around its axis. Can be locked by hand in seconds. Easily attached.



PRICE — \$5.00
Check, Money Order or COD

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Direct Mail is the most selective form of advertising—**IF**.

Direct Mail is one of the most economical forms of advertising—**IF**.

Direct Mail may be the most precise form of advertising—**IF**.

And the degree of "**IF**" depends upon the quality and dependability of the list you use.

That fact is the main reason why **CHILTON AUTOMOTIVE LISTS** are the mailing lists for practically the entire automotive industry.

They are corrected daily, for the highest attainable degree of accuracy.

They are cross-checked for the elimination of all discernible duplication.

They are maintained by our trained force of list compilers, most of whom do nothing else during each working day; many of whom have been doing it without interruption since the inception of these lists 30 years ago.

Mailings made over **CHILTON LISTS** may be made with full assurance that statements concerning the accuracy and dependability of the names provided need no qualifying "**IF**."

For selectivity, economy and accuracy **CHILTON AUTOMOTIVE LISTS** excel.

Write for free data file.

Direct Mail Division
CHILTON COMPANY

Chestnut and 56th Sts. ① Philadelphia 39, Pa.



IMPACT WRENCHES

**DO EVERY NUT RUNNING
JOB FASTER, EASIER**

No matter which type of power you use—pneumatic, high frequency or universal electric—**THOR** can recommend the best Impact Wrench for the job. **THOR** builds all three types, and into 20 distinct models places the same exclusive type of impact mechanism that is outperforming other wrenches on scores of different jobs. Call your nearby **THOR** branch for a demonstration.

20 MODELS

INDEPENDENT PNEUMATIC TOOL CO.
AURORA, ILLINOIS



Free
CALCULATOR

Write today for this handy torque chart and tool selector for all nut running jobs.



- Belt Sanders
- Bench Grinders
- Drills
- Drill Stands
- Fender Hammers
- Grinders
- Electric Hammers
- Impact Wrenches
- Nibbler
- Nut Setters
- Polishers
- Sanders
- Saws
- Screw Drivers
- Tappers
- Valve Refacers
- Valve Reseaters
- Air Tool Kits

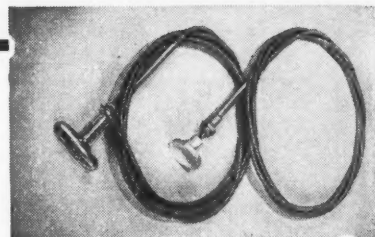
The NEAPCO Line is AT YOUR FINGERTIPS

Seventeen strategically located Neapco warehouses enable Neapco jobbers to keep a ready stock of Neapco Universal Joints & Parts on hand to serve you. Distinctive, uniform packaging makes the line easy to handle. Clear, complete cataloging makes servicing fast, accurate. You're sure when you buy Neapco.

America's Most Complete Independent Line
OF UNIVERSAL JOINTS & PARTS



Universal Hood Controls



for practically all makes of cars. Quality products with exclusive engineering features and trouble-free service. Easy to install. Easy to sell. Contact your local jobber or write for full information.

Also Mfrs. of Revolutionary Aldo Conversion Kits
SUPERIOR SCREW & MFG. CO., INC.
1924 N. Leamington Chicago 39, Illinois

Classified Advertisement

FOR SALE—Brake—Wheel Aligning—Motor Tune Up Service. Estab. 15 years. Most modern precision service in all three departments in L. A. today. Employs 4 men. Equipment, stock, office machines, truck & loan cars, etc., with a nice class of clientele. Goes at \$20,000.00. Doing from \$3,000 to \$5,000 per month gross. Building available for sale or lease. S. G. Clark, 2409 W. 59th Street, Los Angeles 43, California.

BUY BONDS



Type A—Radiator
Hose Connections



Type G-BB—Booster
Brake Hose Connections
No. G-B-HH for
Hot Water Heater Hose



Type HP—High
Pressure Hose
Connections

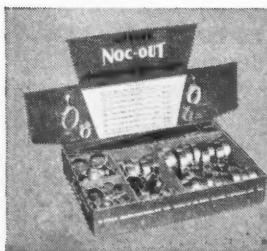
WITTEK NOC-OUT HOSE CLAMPS

For All Automotive Replacement Uses

With a variety of sizes and types, there is a Wittek Noc-Out Hose Clamp for every automotive hose connection. Easily and quickly applied or removed, Wittek Hose Clamps have long been known as the standard of the automotive industry for leakproof hose connections. See your jobber, or write for details.

Special Assortment Kit

An attractive display package of a balanced assortment of 70 Wittek Noc-Out Hose Clamps—9 types and various sizes. It is a handy and practical unit for garage and service station use.



WITTEK Manufacturing Co.

4333 W. 24th Place, Chicago 23, Illinois

Automotive
**HOSE
CLAMPS**



MOTOR AGE

—is a publication keyed directly to the needs of the automotive after-market. Built on the requirements of car dealers and repair shops. Edited by Frank P. Tighe. Read it every month.



A Chilton Publication
CHESTNUT AND 56TH STS.
PHILADELPHIA 39, PA.

A few turns will do it!...



BUCKINGHAM...

Thread RESTORERS

Just slip on, tighten and turn. That's all there is to it—it's that simple...and quick... And what results!

Flats and nicks are eliminated—even heavily rusted and corroded threads are cleaned pronto. No more drilling or hack sawing to restore damaged male threads—when you have a Buckingham Thread Cleaner handy.

Follows the pitch of any right or left hand thread—sizes range from 1/4" to 4" root diameter. No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. See your nearest Buckingham dealer—or write.

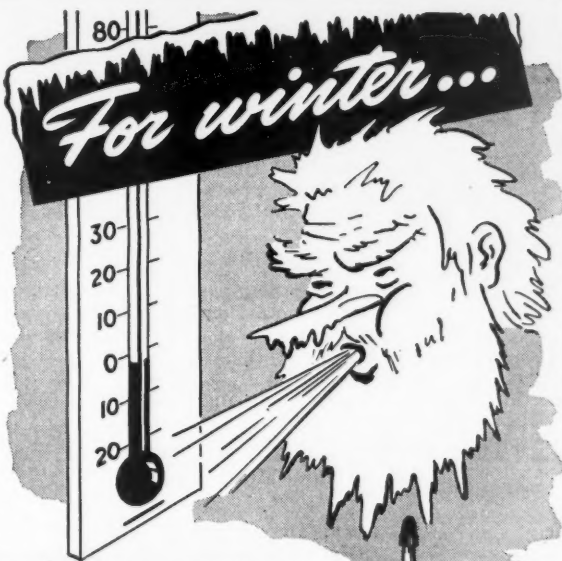
*Short swing type.

6103—1/4" to 1" root diam.	\$ 6.50
6203*—1/4" to 1" root diam.	8.50
6104—1" to 2 1/8" root diam.	12.00
6106—2" to 4" root diam.	27.50
6204*—1" to 2 1/8" root diam.	21.00

BUCKINGHAM MANUFACTURING CO., INC.

59-65 Travis Street

Binghamton, N. Y.



Every lock needs

LOCK-EASE®

graphited LOCK FLUID

BEST PROTECTION AGAINST FREEZING...STICKING...RUST

This winter—give your customers the best in lock maintenance. Use Lock-Ease! Sell it three ways—as a special service...as part of the regular lube job...in 4-oz. cans for car and home use. Easy to apply. Penetrates quickly, helps seal out moisture, gives maximum protection against freezing. Order from your jobber—**now**.



4-oz. Can delivers drop or pressure stream. List Price

35¢

AMERICAN GREASE STICK CO., Muskegon, Mich.



Federated Gardiner BRAND SOLDER

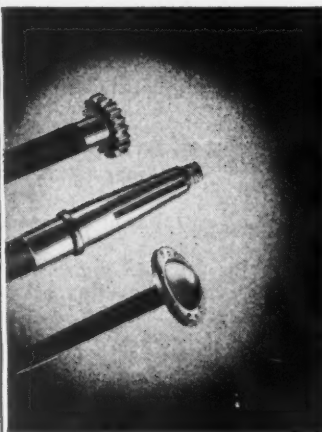
Use the solder that makes your job easier... Federated Gardiner brand Acid Core Solder.

The flux is right in the solder. No messy acid or fluxes to contend with. All you need is a torch or iron... and Federated Gardiner brand Solder.

In all commercial sizes and compositions. Listed by Underwriters' Laboratories, Inc. Analysis prominently displayed on carton.

Federated Metals Division

AMERICAN SMELTING AND REFINING COMPANY
WHITING, INDIANA (CHICAGO)



THE MOST COMPLETE LINE OF AXLE SHAFTS AVAILABLE

You can get an axle shaft for any make car, truck, or bus from the Jobber who sells U.S. Axles. He is the better Jobber everywhere.

The US AXLE CO., Inc.
Pottstown, Pa.

US AXLES

Index to Advertisers

This Advertisers' Index is published as a convenience, and not as part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.



AC Spark Plug Div.....	26-27
Accurate Parts Mfg. Co.....	166
Air Reduction Sales Co.....	172
Airtex Automotive Div.....	146
Ajax Auto Parts Co.....	120
Alemite Div.....	31
Aluminum Co. of America...	25
American Bosch Corp.....	83
American Chain & Cable Co...	183
American Grease Stick Co....	207
American Hammered Piston Rings	142-143
Anthony Company	203
Appleton Electric Co.....	144
Armstrong-Victor	158-159
Aro Equipment Corp., The....	6
Auto Lamp Manufacturing Co.	139
Auto Specialties Mfg. Co....	148-149
Automotive Industries	199
Automotive Mfg. Co., Inc....	203

Bean Division, John.....	171
Bear Mfg. Co.....	204
Bendix Products Div.....	203
Blackhawk Mfg. Co.....	14
Bonney Forge & Tool Works	23
Borg & Beck Division.....	101
Borg-Warner Corp.	99-100-106
Bowes Seal Fast Corp.....	107
Breeze Corporations, Inc....	210
Buckingham Mfg. Co., Inc....	207
Buell Mfg. Co.....	188
Buick Motor Div.....	119
Burd Piston Ring Co.....	110

Campbell Chain Co.....	79
Car-Mon Products Co.....	203
Carter Carburetor Corpora- tion	176-177
Central Tool Company, The..	194
Champ-Items, Inc.	201
Champion Laboratories, Inc..	118
Champion Spark Plug Co....	16-17
Chevrolet Motor Div....	18-19-28-29
Chicago Pneumatic Tool Co...	126
Choldun Mfg. Corp.....	204
Chrysler Motors Parts Corp..	10
Classified Advertisements	206
Cleveland Graphite Bronze Co., The	147
Commercial Credit Corp.....	115
Commercial Trades Institute.	204
Crescent Company, Inc., The..	24
Curtis Pneumatic Machinery Div.	187

Delco Prod. Div. General Mo- tors Corp.	151
Delco-Remy Div. General Mo- tors Corp.	7
DeLuxe Products Corp.....	161
De Vilbiss Company.....	91
Direct Mail Div., Chilton Com- pany	205
Ditzler Color Div.....	121
Doan Mfg. Corp.....	116
Dole Valve Co., The.....	152

Echlin Mfg. Co.....	112
Edelmann & Co., E.....	174
Eis Automotive Corp.....	124
Electric Auto-Lite Co., The...	8-9
Electric Heat Control Co....	190
Ethyl Corporation	11

Federal-Mogul Service	15-170
Federated Metals Div.....	207
Felt Products Mfg. Co.....	135
Fendix	87

Fitzgerald Mfg. Company....	204
Fram Corp.	162-163
Frenchtown Porcelain Co....	210

Garbisch-Edgington, Inc.	204
Grey-Rock Div. Raybestos- Manhattan, Inc.	13
Grizzly Mfg. Co.....	173
Gumout Div. Pennsylvania Re- fining Company	128-129

Harley-Davidson Motor Co....	154
Hastings Mfg. Co.....	2nd Cover
Heller Brothers Co.....	97
Herbrand Tools	196
Holley Carburetor Co.	22
Homestead Valve Mfg. Co....	138
Hudson Motor Car Co.....	175
Hyatt Bearings Div.....	186
Hygrade Products Div.....	167

Imperial Brass Mfg. Co.....	125
Independent Pneumatic Tool Co.	205
Ingersoll Products Div.....	103
Insul-Mastic Corporation of America	95

Johnson Bronze Co.....	114
------------------------	-----

K-D Manufacturing Co.....	189
Kelsey-Hayes Wheel Co.....	181
Kem Mfg. Co., Inc.....	160
Ken Tool Mfg. Co., The.....	204
Kennedy Corp., Singer.....	204
Kent-Moore Organization, Inc.	145
Kester Solder Co.....	180
Koppers Co., Inc., Piston Ring Div.	142-143

Lion Oil Company	157
Long Mfg. Div.	104

M-R-C Bearings Service Co. .	191
McQuay-Norris Mfg. Co....	136-137
Manifold Hot Spot Corporation	192
Marlin-Rockwell Corporation.	191
Marsh-Wall Products, Inc....	193
Martin-Senour	155
Monroe Auto Equipment Co..	209
Moog Piston Ring Co.....	21
Moraine Products Div. General Motors Corp.	179
Morse Chain Div.....	102

National Air Sander Inc.....	150
National Automotive Parts Assn.	89

National Machine & Tool Co..	108
National System of Garage Ventilation	210
Nealon Associates, Frank A...	204
Neapco Products, Inc.....	206

Oil Dri Corporation.....	140
Oldsmobile Division	197

Packard Electric Div., Gen- eral Motors Corp.....	93
Parkwood Mfg. Co.....	204
Pedrick Piston Ring Div.....	12
Pennsylvania Refining Co....	128-129
Perfect Circle Corp.....	73
Perfection Gear Co.....	77
Permatex Co., Inc.....	1
Plain & Co., John	204
Pure Oil Company.....	109
Purolator Products, Inc.....	113

Ramsey Corporation...3rd Cover	
Rankin Mfg. Co.....	141
Raybestos Div. Raybestos- Manhattan, Inc.	4
Reynolds & Reynolds Company, The	153
Rinck-McIlwaine, Inc.	210
Rinshed-Mason Co.	127

Saturday Evening Post....	184-185
Sealed Power Corp.....	32-31
Service Spring Co.....	204
Simonds Abrasive Co.....	195
Singer Kennedy Corp.....	204
Skilsaw, Inc.	168-169
Snap-on Tools Corp.....	111
Southern Friction Materials Co.	204
Standard Motor Products, Inc.	30
Stewart-Warner Corp. (Ale- mite Div.)	31
Storm-Vulcan, Inc.	156
Studebaker Corp.	71
Sun Electric Corporation....	165
Sun Oil Co.	20
Sunnen Products Co.....	130-131
Superior Screw & Mfg. Co., Inc.	206

Texas Company	2
Thermoid Company Back Cover—	134
Timken Roller Bearing Co., The	5
Tuthill Spring Company....	164

U. S. Axle Co., The.....	207
United Motors Service.....	117-151

Van Dorn Electric Tool Co....	75
Van Tool, Inc.....	201
Victor Manufacturing & Gas- ket Company	158-159

Wagner Electric Corp....	132-133
Walker Mfg. Co. of Wis....	122-123
Warner Auto Parts Div.....	105
Weed Chains	183
Weller Electric Corp.	182
Wilkening Mfg. Co.....	12
Wiry Joe	24
Wittek Mfg. Co.....	206
Wix Accessories Corp.....	85
Wolf's Head Oil Refining Co..	204
Wood Co., Frank N.....	178
Wudel Mfg. Co., Edmund J...	201

Missing something, Mac?

Mac is getting nowhere with that approach—just as many garage men and service station operators are getting nowhere by neglecting the big Monroe Shock Absorber replacement market.

Millions of cars need new shocks and millions of owners are ready to buy. All it takes is a little selling and that's easy when you recommend Monroe—the shock absorbers that are standard equipment on more makes of cars than any other brand.

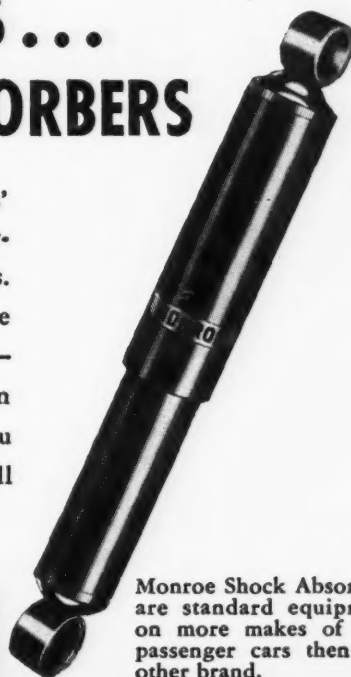
Ask your jobber or write direct for details of the money-making Monroe franchise.



The KEY to more PROFITS... MONROE SHOCK ABSORBERS



YOUR KEY TO MORE PROFITS is your customers' key to riding comfort—and that means easier-riding, easier-to-sell Monroe Shock Absorbers. If you don't have one of these colorful Monroe Display Racks with its new "Gold Key" cap—see your jobber or write us today. Here's an item that not only gets attention but keeps you stocked with shock absorbers to fit 85% of all cars on the road.



Monroe Shock Absorbers are standard equipment on more makes of new passenger cars than any other brand.

MONROE AUTO EQUIPMENT CO.

Monroe, Mich. — World's Largest Maker of Ride Control Products

Holds Tight in any position

Avoid leaky joints—an "Aero-Seal" Hose Clamp holds tight in any position. Vibration proof. Curved saddle prevents distortion of hose, assures uniform sealing pressure around complete circumference. Stainless steel—corrosion resistant. Hardened steel worm drive unscrews easily but will never shake loose. Send for FREE SAMPLE.

"Aero-Seal"
HOSE CLAMPS



Worm Drive
Never Works Loose



BREEZE CORPORATIONS, INC.
40 South Sixth St., Newark 7, N. J.

ANOTHER
BREEZE
MARK
PRODUCT

GET RID OF GAS FUMES

Solve Your Garage and Shop Ventilation Problem This Simple Inexpensive Way

What you have been waiting for—the final, successful solution to your garage ventilation problem all available in a packaged kit, including motor and blower, ready to install.

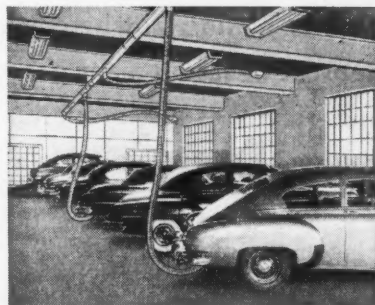
- Removes gas fumes at source (exhaust pipes).
- Simple installation—no change or alteration of existing facilities.
- Not in your way—instantly in use, or out of the way when you don't need it.
- Saves man-hours and helps keep employees. Mechanics have less sinus, headaches, etc.

Complete Packaged
Kit
F.O.B. Decatur

\$187.50

Write for circular

Illustration shows standard kit with two extra tube outlets.



"National" also makes complete packaged kits for underfloor installations starting at \$319.50. Rustproof, cast aluminum floor assemblies, flexible metal hose, motor and blower units and accessories available.

WRITE FOR COMPLETE CATALOG

Architects and Builders please refer to Sweet's Catalog.

THE NATIONAL SYSTEM OF GARAGE VENTILATION

World's Largest Manufacturer of Exclusive Garage Ventilating Equipment
DEPT. 3E, 330 N. CHURCH ST., DECATUR, ILLINOIS

FRENCHTOWN INSULATORS

—DESIGNED
—ENGINEERED
to meet
Specific
Requirements



Frenchtown Insulators are really "tailor made" to fit your needs. Shape, size, application—all are given due consideration by our staff of skilled ceramic engineers. One entire plant at Frenchtown, N. J., is devoted exclusively to the production of FRENCHTOWN INSULATORS.

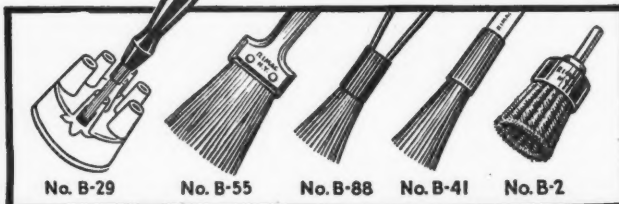
USED BY MORE SPARK
PLUG MANUFACTURERS
THAN ANY OTHER MAKE

The Result of 34 Years' Constant Research

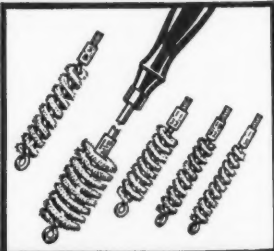
FRENCHTOWN PORCELAIN CO.

Sales Office — 9 Muirhead Avenue, Trenton 9, N. J.
Factory — Frenchtown, N. J.

A complete stock of LONG LIFE WIRE BRUSHES from RIMAC



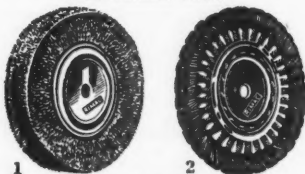
- No. B-29 Distributor Head Brush. Quickly cleans and dresses distributor head sockets.
- No. B-55 Muck Brush, Metal Handles. Excellent for cleaning small parts.
- No. B-88 "Utility" Wire Brushes. Ideal for cleaning battery terminals and removing solder, chips, filings, etc.
- No. B-41 Parts Cleaning Brush. Pig Bristles set in Rubber. Does not collapse in water, oil or gasoline. No metal—no sparks.
- No. B-2 Rotary Wire Brush for use with electric drills.



Valve Guide Brushes. Interchangeable and economical. Five sizes handle 90% of passenger cars and light trucks.

Over all length 11".

- 1—"Heavy Duty" Wire Wheel Brush.
- 2—"Spiral Twist" Wire Wheel Brush Sections.



See your jobber or write us.
RINCK-McILWAINE, INC. 16 Hudson Street, New York, N. Y.

Balance Spring Action...



another important reason why:

RAMCO **10_{up}** CURBS WEAR!

Ramco RE-POWERING Program Helps You To Help America Fight Premature Car Wear

Here's the program to help you show customers that oil pumping and blow-by are warning signs of serious premature wear. Help America conserve resources by urging customers against putting off re-ringing. Sign up for RE-POWERING Station Sign today. See your Ramco Jobber.



When you Re-Power with Ramco 10-Up Rings you do more than provide against oil pumping and blow-by. You prolong the life of the engine. Ramco 10-Up Ring construction is designed, not only to compensate for piston and cylinder wear, but also to CURB WEAR.

One of many Ramco originations which CURB CYLINDER WEAR is the alternating action of 10-Up's continuous Spiro-Seal steel ring. This alternating action winds up like a balance spring on the downstroke to increase cylinder wall contact; UNWINDS on the upstroke to relax the wall contact to the proper requirement for adequate lubrication of cylinder walls.

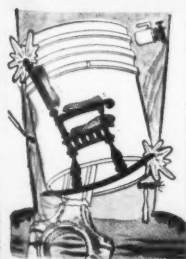
Adequate Cylinder Lubrication is one reason for 10-Up's long life... one reason why you can install them on Ramco's 10,000 MILE (one year) GUARANTEE covering both rings and labor.

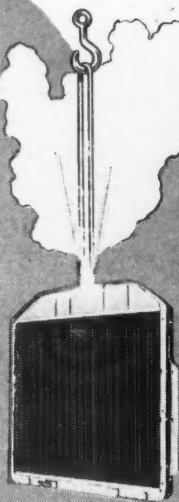
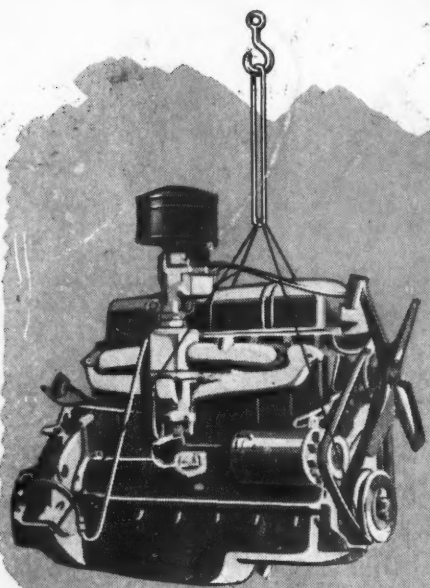
It's another important reason, too, why:

**Ramco 10-Up Piston Rings Are Right for Any Job
Re-Bore or Re-Ring.. Car.. Truck.. Bus.. Tractor**

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"Everything" Hangs on the Fan Belt!

Fan belt failure delivers a knockout blow to engine performance—to the cooling, lighting, and ignition systems. So . . . check the fan belt on *every* car you service. When a fan belt needs replacing, install a Thermoid Fan Belt . . . the top-quality belt. Ask your Thermoid Distributor for the whole story *now!*

Thermoid Company • Trenton, New Jersey

Thermoid Pre-stretched Fan Belts
are "A Horse of a Different Color"



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Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment